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ORIGINAL ARTICLES.

THE PRESENT STATUS OF VAGINAL OPERATIONS FOR DISEASES OF THE PELVIC ORGANS.¹

By EDWIN B. CRAGIN, M.D.,
OF NEW YORK;

ASSISTANT GYNECOLOGIST TO ROOSEVELT HOSPITAL.

THE time has come for a careful revision of our experience with vaginal operations and a calm judgment of their utility. The new operation, so attractive to a large number of the profession, has gradually lost its newness, and with a considerable mass of evidence, *pro and con*, presented from different sections of this country and from abroad, we are now in a position to ask and answer the question: Are we better able to treat patients suffering with diseases of the pelvic organs now than we were before the resurrection and extension, under the stimulating influence of the French surgeons, of the operation tried years ago and abandoned by Thomas, Gilmore, Battey, and others?

By the vaginal operation is meant the direction of attack and procedure in different operations upon the pelvic organs—draining abscesses or inflammatory exudates; removing tumors, the uterus, or the appendages.

It is only natural that after years had been spent in perfecting technic and developing dexterity in the abdominal operation a change so radical as that involved in the vaginal method should meet with opposition. Objections, the operation has, and now after several years of experience with it, we know something of the objections, something of what the limits of the operation should be.

It is said that the vaginal operation is a difficult one, and this must be admitted even by those who favor vaginal work and use this route in a large proportion of their cases. It certainly requires more practice to become familiar with it than the abdominal operation; but here as elsewhere experience removes the difficulties and practice gives dexterity.

Certain dangers have been emphasized as being more marked in vaginal than in abdominal work. Of these, hemorrhage and injury to the neighboring viscera, with resulting fistulæ, have been made especially prominent. It must be confessed that there

has been ground for criticism in the early work of almost all who have tried and practised the vaginal method, and occasionally one has been obliged to open the abdomen to check bleeding, the control of which he did not feel sure of from below. As experience has increased, however, and we have better learned to judge the class of cases suitable for vaginal attack, the control of hemorrhage has been found to cause little, if any, more trouble than in abdominal operations.

Rectal fistulæ during one's early experience with vaginal work occurs perhaps with rather greater frequency than when operating through a large abdominal wound with the patient in the Trendelenberg position. The differential feel between rectum and distended Fallopian tube is not always appreciated with ease. Even the entrance into the peritoneum through the posterior vaginal fornix, in one's early work, sometimes gives trouble, especially when the pouch of Douglas is obliterated by adhesions, and in our efforts to separate these adhesions the rectum has been injured. Experience and the selection of cases suitable for the method have helped largely to overcome this complication, and it is generally conceded that even if a fistula does occur, as a rule, it closes spontaneously in a short time.

Thus far we have spoken chiefly of the disadvantages of the method and of its complications. Why should one wish to employ the vaginal operation if it is more difficult for the operator? Because we believe that in properly selected cases the operation is accompanied by less shock, the mortality is less, the convalescence is smoother, and even if the occurrence of hernia in a properly conducted abdominal operation is rare, it must be admitted that in the vaginal method it is still more rare; the writer has never met with one in his own experience. Although the avoidance of an abdominal cicatrix is not a matter of great importance, if the operation can be equally well performed without one, it is usually appreciated by the patient. The rapidity of convalescence and the shortness of time which the patient is required to be kept in bed are sometimes emphasized by enthusiastic advocates of the vaginal operation; but in the opinion of the writer, although the patients feel like getting out of bed sooner than in the abdominal operation, they should not be allowed to do so for at least two weeks. A firm cicatrix, absorption of exudate, and the future welfare of the patient

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are certainly more promoted by rest and quiet than by any attempt to see how early the patient can leave the bed.

In certain cases the vaginal operation has marked advantages, and in our discussion of the subject the most important feature is the selection of cases for which the operation is suited. The writer, on looking over the record of his vaginal work, found included in the list, aside from operations for the removal of the uterus and appendages, such operations as removal of the vermiform appendix, removal of a displaced left kidney, myomectomy at the fundus of the uterus, etc. Certainly the possibilities of the vaginal method are great, but the question before us as conscientious surgeons is not what *can* be done through the vagina, but what, in the interest of the patient, *can best* be done in this way.

It is only natural that in testing the merits of a new operation we should extend its use into fields whose boundaries riper experience tells us had better not be crossed. In my early vaginal work a number of patients were operated upon by this route in which the uterus appeared to be so healthy that its removal did not seem indicated in spite of the removal of both appendages. Although the results were good, experience and observation lead me to think that, except in the case of small ovarian tumors, *if the uterus is not to be removed*, the abdominal operation is to be preferred for the removal of one or both appendages. Small ovarian cysts and prolapsed diseased ovaries, requiring removal, form a class of cases often well adapted to the vaginal operation. Except in these instances, however, I believe that unilateral disease of the appendages is best dealt with from above, where the organs may be more thoroughly inspected, and those which are not to be removed may be left in the best possible condition for the future welfare of the patient. These are general rules, and many exceptions may occur. A woman with a roomy vagina and a thick, fat abdominal wall, with the mass to be removed lying low in the pelvis, is a favorable subject for vaginal work.

The vaginal operation has been tried in different phases of ectopic gestation, but experience proves that except in cases in which rupture has taken place some time previously and the resulting hematocoele is well encapsulated, the abdominal operation is the one to be preferred. Many operations have been tried through the vagina for the correction of posterior displacements of the uterus, but on account of frequent dystocia among those in whom pregnancy has followed the operation, vaginal fixation of the uterus has been largely abandoned. Vaginal shortening of the round ligaments at present has rather a

brighter outlook, but experience with it has been so limited that judgment must be reserved.

Into the general question of whether it is advisable after resection of a portion of a diseased ovary or tube to leave the remainder, if apparently healthy, I shall not enter, but will only say that if this conservative work upon the appendages is to be done, most operators are agreed that it is better done from above than from below.

A class of cases in which the vaginal operation has proved of great service to the writer comprises women who are pregnant and whose parturient canals are obstructed by tumors which cannot be raised out of the pelvis. I have three times observed this condition, and by vaginal removal of the tumor have enabled the patient to be delivered of a living child.

There are three groups of cases in which the vaginal operation has proven, in my experience, a great boon to suffering women:

1. Pus cases in which removal of the uterus and appendages is indicated.
2. Cases in which exudate indicates drainage without the removal of any organ.
3. Small fibromyomata.

The question of whether hysterectomy is indicated in every double salpingo-oophorectomy will not be discussed in this paper. Suffice it to say, that the profession are pretty generally in accord that there are many cases of double pyosalpinx in which the uterus, enlarged, the seat of a marked endometritis, perhaps with cervix lacerated, had better be sacrificed if both appendages are removed. Experience seems to justify this conclusion, and it is just in these cases in which the vaginal operation, with its lessened shock, lessened handling of the intestines, and more complete drainage, finds its most perfect adaptation.

Puerperal septicemia does not often indicate hysterectomy, but there are a few cases, which, in the latter part of the puerperium, about the end of the first month, present pus foci in the uterine walls or in the appendages, or in both together. Here again vaginal hysterectomy has found a useful field. The writer has operated upon four such patients, saving two and losing two, a better result, I believe, than would have been obtained by the abdominal operation.

It has long been a familiar fact that patients profoundly septic do not endure extensive operations well; and it has long been the practice of many men, in cases in which there are large collections of pus, to drain the abscesses through the vagina and wait until the patient recovers from her sepsis before subjecting her to the radical operation. This certainly is a rational procedure, and its adoption has saved many lives by requiring, at a later date, a less

extensive operation than would have been needed early, and sometimes by obviating the necessity of a subsequent operation.

Thanks to the work of Henrotin of Chicago, we have found that in the relatively acute cases, before the formation of much or any pus, a great deal may be accomplished by vaginal incision, breaking up the adhesions about the appendages, and draining freely through the vagina. In one case, in which was threatened an extensive peritonitis from infected, retained secundines, the writer, by curettage of the uterus, vaginal incision, separation of the adhesions about the appendages, and free vaginal drainage, secured a rapid convalescence with no permanent damage to the tubes and ovaries. Two patients with pelvic peritonitis and exudate in the pouch of Douglas and about the appendages, with physical signs as nearly alike as two cases could be, were placed by me in adjoining beds in a hospital ward. In one a vaginal incision was made in the posterior fornix, adhesions were broken up, and the pelvis was drained with gauze; the other was subjected to the usual routine treatment of vaginal douches, boroglycerid tampons, and counter-irritation. The former patient convalesced and left the hospital in just about half the time required by the latter. Of course it cannot be proven that the two cases were absolutely alike, but the symptoms and physical signs resembled one another closely, and the rapid symptomatic cure in one by means of drainage was in marked contrast to that of the other. The writer would not be understood as recommending vaginal incision in every case of pelvic peritonitis, but when there is present evidence of fluid exudate in the pelvis, vaginal incision and drainage will, I believe, shorten the convalescence and lessen the damage to the appendages.

Whether fibromyomata of the uterus should be attacked through the vagina depends upon their size and location in the uterus. If myomectomy is to be performed, unless the tumor is situated in the lower uterine segment, or in the cervix, the abdominal route should have the preference. If hysterectomy is to be done, and the uterus and tumors together do not form a mass larger than a pregnant uterus of three or four months, the vaginal operation, with or without morcellation, has advantages so marked that one has only to watch the convalescence in such cases to be impressed with the fact that patients thus operated upon present but little more reaction than from a plastic operation for the repair of cervix and perineum.

Into the technic of the operation I shall only go far enough to emphasize the value of (1) morcellation, (2) the Mikulicz drain, and (3) ligatures. Those who have not tried and practised morcellation in some form or

other in the course of a vaginal hysterectomy with an enlarged uterus, have certainly not availed themselves of their opportunities. The facility which is thus given the operator in acquiring needed space for work, and in reaching parts hitherto beyond his reach can only be appreciated by those who have tried it. In the case of a fibroid uterus, with pus in tube or ovary, morcellation proves of especial value; as, after the removal of the cervix and middle third of the uterus, and the splitting of the fundus, the fingers, or even the hand if it is small, may be introduced into the pelvis and the appendages enucleated. It is probably familiar to nearly all that the secret of success in morcellation lies in the fact that steady traction upon the uterus, with a reliable volsella affixed above the part to be removed, controls hemorrhage.

In all cases requiring drainage after vaginal hysterectomy, the principle of the Mikulicz pouch carried out in the following manner has given me most excellent service: A square handkerchief-shaped piece of gauze is opened out by an assistant and held in front of the vulva; a blunt instrument, like a sponge-holder is placed by the operator against the center of this gauze and pushed on into the pelvis. The fingers of the operator are now substituted for this instrument and carried up on one side until he feels that he is above the highest pedicle of that side. The end of a long narrow strip of gauze is then passed along the finger, of course within the pouch, until it too is carefully placed above and against the highest pedicle; enough of the same long narrow strip is inserted to loosely fill that half of the pelvis. The fingers are then introduced above the pedicles on the other side and the same process repeated either with a part of the same long strip or with another. In this way the intestines are kept away from the field of operation, drainage is secured, and the strip of gauze may be gradually withdrawn from the pouch with scarcely any disturbance to the patient; the pouch collapses as its contents are removed and may be withdrawn as desired.

The profession is divided in the choice of clamps or ligatures as a means of controlling hemorrhage. It undoubtedly is often a great convenience to use clamps at various stages of the operation, but the impression seems to be gaining ground that the comfort of the patient is better provided for if the clamps, when used, are replaced by ligatures before the patient leaves the table. In my own practice it is a very rare exception if clamps are left on when the patient leaves the operating-room.

In conclusion we believe:

1. That there are many conditions in the pelvis not suited for the vaginal operation.

2. That care is required in the selection of cases for this work.
3. That small fibromyomata and small ovarian tumors are often well suited for vaginal attack.
4. That in pus cases indicating hysterectomy, and in cases requiring drainage, the vaginal operation has great advantages.
5. That in answering the question presented at the beginning of this paper we must admit that we are much better able to treat and cure patients suffering with disease of the pelvic organs now, than we were before the development of the vaginal operation.

OTITIS MEDIA PURULENTA; ITS COMPLICATIONS AND TREATMENT.¹

BY GORHAM BACON, M.D.,
OF NEW YORK;

PROFESSOR OF OTOLGY IN THE NEW YORK UNIVERSITY MEDICAL COLLEGE; AURAL SURGEON TO THE NEW YORK EYE AND EAR INFIRMARY.

I SHALL only endeavor, in the short time before me this evening, to refer in a general way to the more important symptoms of purulent otitis media, both acute and chronic, and to the complications of this disease. The subject is such an inexhaustible one that it will only be possible to touch on a few of the most important points. The causes of acute purulent otitis media are cold, influenza, the exanthematous diseases, diphtheria, typhus and typhoid fever, bronchitis, cerebrospinal meningitis, pneumonia, tuberculosis, the puerperal state, syphilis, sea-bathing, injuries to the auditory canal and drumhead from blows, falls, the improper use of instruments, and the application of caustic solutions. The use of the nasal douche, and sniffing up of salt and water for nasal catarrh, frequently cause otitis media. Dentition plays an important rôle, as children during this period very often have acute otitis media which subsides after the eruption of a tooth. Adenoid growths and enlarged tonsils should also be mentioned among the causes of this disease. As a rule, this form of inflammation begins in the nasopharynx and extends by means of the Eustachian tube to the middle ear.

Scarlet fever, measles, diphtheria, and influenza are responsible for most of the cases of acute as well as of chronic otitis media, so that it is of the greatest importance that the ears should be frequently examined during the course of one of these diseases. Prompt and early treatment will often effect a cure. Neglect of treatment, or "letting the ears take care of themselves," results, as a rule, in chronic purulent otitis media with caries of the ossicula and other complications. Besides pain and tinnitus there is

present more or less febrile disturbance until rupture of the drumhead occurs. The temperature in children is apt to be very high, and the commencement of an attack is sometimes ushered in by a convulsion or severe vomiting, so that a diagnosis of meningitis has occasionally been made in such cases. In the tuberculous form, perforation of the drumhead occurs without pain, and in such, the drumhead and middle ear are, as a rule, quite pale in color.

The pain, after the discharge appears, is usually much less severe, and children who a short time before were screaming on account of its severity, suddenly fall asleep, while the temperature is apt to drop several degrees. When the pain persists after the ear has begun to discharge it is probable that the periosteum of the external meatus or the mastoid cells are involved. The most frequent seat of perforation is in the lower anterior or posterior quadrant, although in some instances it is observed in Shrapnell's membrane. The inflammation is apt to be of a much more severe type and run a more protracted course in patients who are scrofulous, or who have, or have recently had, scarlet fever, measles, diphtheria, or influenza. Acute purulent otitis media may terminate in recovery with or without permanent loss of hearing, or may become chronic.

It is most important in the acute inflammatory stage of purulent otitis media to at once apply the artificial leech close to the tragus, and thus endeavor to abort the disease by antiphlogistic measures. If, in spite of this treatment, the pain persists, or bulging of the drumhead occurs, we should at once make a free incision in the drumhead, but never a small opening with a paracentesis needle, as was formerly advised. A physician should never incise the drumhead unless he is able to see the membrana tympani by means of a good illumination with head mirror and speculum. During the course of scarlatina, measles, diphtheria, influenza, typhus, and typhoid fever, the ear should be constantly examined, and as soon as it is evident that there is fluid in the tympanic cavity it should be at once evacuated by means of a free incision in the drumhead. It should be the object in all cases in which micro-organisms are present in the discharge to use antiseptic solutions (preferably the bichlorid of mercury, 1-3000). The same treatment should be applied to the nasopharynx and nares by means of an atomizer. It should then be the endeavor to drain the middle ear as thoroughly as possible, and for this purpose, in addition to irrigating the canal, a strip of iodoform gauze should be pushed down to the drumhead and renewed as often as necessary.

If a free incision is not made and proper drainage from the middle ear established, there is then great

¹ Read at a meeting of the New York Academy of Medicine, December 2, 1897.

danger that the acute purulent otitis media will become chronic. The pus not having a free exit forms caseous masses in the attic and antrum, and caries of the ossicles and inflammation of the mastoid cells is the result. In that form of inflammation limited mostly to the attic and Prussak's spaces, it is imperative, during the early stage, that several incisions should be at once made in Shrapnell's membrane, otherwise the pus cannot escape, and will be apt to cause caries of the ossicula, and the disease thus becomes chronic. When the latter condition results the surgeon should endeavor to thoroughly drain the cavity by enlarging the opening, if this be too small, and to wash out by means of the middle-ear syringe all secretion in this part of the tympanic cavity. Here bichlorid of mercury solutions are again indicated. Granulations should be destroyed by applications of chromic acid or by the use of curettes. If in spite of local treatment the discharge continues, a cure may undoubtedly be effected in a certain number of cases by excision of carious ossicles and remains of the drumhead, and by scraping and curetting the attic. There are, however, a large number of cases of long-standing suppuration in which removal of the ossicles will not effect a cure, and in such it becomes necessary to cut down on the antrum, from behind the auricle, and perforate the bone with chisels and mallet. Thus, the antrum may be reached and cheesy matter, which so often collects in this cavity, may be removed.

As a result of the acute and chronic forms of otitis media the following complications are liable to occur: Granulations and polypi; caries of the ossicula and temporal bone; cholesteatoma; mastoid disease; suppurative meningitis; epidural abscess; cerebral abscess (temporo-sphenoidal and cerebellar); pyemia; septicemia, and facial erysipelas. I have reported two cases in which facial erysipelas was secondary to acute otitis media. In both patients the general health was impaired. Disease of the mastoid cells may occur as a sequel of acute otitis media purulenta, or may develop in connection with the chronic form of the disease. There have been, according to my experience, many more cases of mastoid disease since influenza made its appearance in this city. It was formerly the exception for the mastoid cells to be simultaneously involved in a case of acute otitis media. Of late years this condition of affairs has been very frequent.

If, during the course of acute otitis media, the temperature remains high after the drumhead has been incised and the mastoid cells opened, the possibility of the existence of a latent pneumonia, or of some other complication, especially sinus thrombosis, should be considered. I have recently ob-

served two cases in which pneumonia was the cause of the high temperature. I have also reported a case of acute otitis media and mastoid disease in which the temperature was very high and remained so until four molar teeth made their appearance. When mastoid disease exists, the temperature may vary from 99.5° to 104° or 105° F. As a rule, the temperature in simple uncomplicated cases is lower in adults than in children. A patient with extensive caries of the mastoid cells and with a carious opening into the cranial cavity may have a temperature but slightly above the normal, so that a comparatively low temperature does not necessarily signify that the case is not one of considerable gravity. Teething infants may present a temperature of 105° F., which is due to an otitis media. Puncture of the drumhead will cause a drop of several degrees in the temperature. When the perforation closes too suddenly the fever is apt to recur. In a case of measles in which both drumheads were bulging and tenderness on pressure existed behind the mastoid, with a temperature of 104° F., a free incision in both drumheads caused the temperature to suddenly fall to 100° F. An operation on the mastoid process should never be deferred until redness and edema of the tissues over the mastoid have appeared and the auricle stands out prominently from the head.

If a patient is observed who has had an acute purulent otitis media for at least a week or ten days, and an examination shows a bulging of the upper wall of the auditory canal and drumhead, and there is pain on pressure over the mastoid antrum or tip, and, further, if there is some elevation of temperature (frequently very slight), and especially if there is a profuse discharge, these symptoms, taken together, are very characteristic of mastoid inflammation. The condition of both mastoid processes should always be compared, because in some persons pressure made over the normal mastoid will cause pain. Edema and swelling of the tissues over this bone and pain on pressure also occur in cases of furuncle of the external meatus; an examination of the auditory canal will, of course, exclude this.

When acute inflammation of the mastoid cells occurs in connection with chronic purulent otitis media it is usually advisable to at once open the cells; otherwise some more serious complication may develop, such as lateral sinus thrombosis or cerebral abscess. In the first stage of secondary mastoid inflammation, after a free incision has been made in the upper and posterior portion of the membrana tympani, the artificial leech should be applied just over the antrum and tip. The Leiter coil should then be immediately adjusted, as cold is one of the

best means of reducing the inflammation. The coil should not be left on longer than forty-eight hours, for, if at the end of that time the pain persists and other symptoms of mastoid disease are present an immediate operation is advisable. Just here I cannot too strongly protest against the frequent use of blisters for these conditions, a practice which only tends, I think, to aggravate the trouble. When an operation has been decided upon, a long incision should be made close to the auricle and extending from the mastoid tip to the upper border of the pinna, so that the entire mastoid process may be inspected. This incision may be enlarged in different directions if an intracranial complication exists. In acute cases it is not always necessary to remove the entire cortex, for the disease may be limited to one portion of the mastoid cells. It must not be forgotten, however, that when pus is not found in the antrum and upper part of the mastoid it may be contained in the tip. In such cases perforation of the tip frequently occurs, and if an operation is not immediately performed the pus will burrow down the neck beneath the deep fascia and possibly give rise to septicemia or pyemia. In all cases of mastoid disease occurring in connection with chronic purulent otitis media, the entire outer wall of the mastoid process should be removed and every pneumatic cell explored.

I sometimes inflate the ears by means of Politzer's method, when the perforation in the drumhead is large and the more acute symptoms have subsided, in order to remove the secretion from the middle ear. It is much better, however, to use a catheter if only one ear be affected, for fear of forcing pathogenic organisms into the normal ear. When caries of the tympanic roof has occurred, a collection of pus is frequently found between the bony wall and the dura, or this complication may be followed by an abscess in the temporo-sphenoidal lobe of the brain. In mastoid disease it is quite common to find erosion of the bony wall just over the lateral sinus, the sinus embedded in pus, and granulations or an abscess may be found in the cerebellum. Cases of extradural abscess are much more frequently observed than abscesses in the temporo-sphenoidal lobe or cerebellum. Cerebral abscess almost always occurs in connection with chronic purulent otitis media, although I have reported one case of temporo-sphenoidal abscess which followed acute otitis media.

The first stage of abscess is usually marked by irregular symptoms, such as irritability, pain, nausea or vomiting, and frequently the discharge from the ear becomes scanty or stops altogether. The occurrence of a change in a patient's disposition, *viz.*, a talkative person becoming morose, or *vice versa*, is

another symptom of importance. The patient frequently complains of chilly sensations. As the disease progresses the cerebration becomes dull and the patient appears stupid and restless. When pus has formed in the brain the most important symptoms are a distinct lowering of the pulse-rate and a temperature either slightly above normal or subnormal. There are exceptions to this rule, for I have reported a case of temporo-sphenoidal abscess in which the pulse was rapid and the temperature very high, with marked fluctuations, so that thrombus of the lateral sinus was suspected.

When aphasia develops in a patient with a chronic purulent otitis media of the left side, it is fairly certain, if the patient be right-handed, that there is a collection of pus in the temporo-sphenoidal lobe. I believe this symptom to be of the greatest diagnostic value—optical aphasia, so-called and described by Freund, Pick, and Starr. Severe headache is also usually an important symptom. Inflammation of the optic nerve may or may not be present. It is more frequently observed in cases of cerebellar than of temporo-sphenoidal abscess. The mastoid cells are often found to be dense and ivory-like in cases of cerebral abscess. This seems to me an important point, for in such the pus is likely to perforate the tympanic roof, and thus cause an extradural abscess or an abscess in the temporo-sphenoidal lobe. Percussion of the skull on the affected side frequently causes pain, and Macewen has called attention to the fact that there is a difference in the percussion note on the side of the head in which the abscess is located. Other symptoms sometimes noticed are digestive disturbances, increase of reflexes in the limbs of the side opposite to the abscess, a difference in the size of the pupils, and facial paralysis.

In cerebellar abscess, the most characteristic symptoms besides slow pulse and low temperature are severe headache, nausea, vomiting, vertigo, a staggering gait, and facial paralysis. Facial paralysis may be due to pressure on the facial nerve in the pons. It must also be remembered that the nerve may be affected in its course through the middle ear. I have observed a case in which the pulse was slow and the patient had vertigo, vomiting, deafness, severe headache, etc., so that a diagnosis of cerebellar abscess was made. When the antrum was opened the semicircular canals were carious, which fact accounted for the symptoms. It is very important to thoroughly examine the external auditory canals in all cases of suspected cerebral abscess; for instance, in the case of a child who was brought to my clinic a short time ago, and who had characteristic symptoms of cerebellar abscess, including choked discs with retinitis, removal of granulations from the

middle ears, with the establishment of proper drainage effected a cure. The choked discs and retinitis disappeared.

When thrombosis of the lateral sinus exists, the more prominent symptoms are severe headache, high temperature with decided fluctuations, nausea, vomiting, and rigors. Over-distension of the superficial veins in the mastoid region, with swelling of the tissues around the mastoid tip, are sometimes observed. When the internal jugular becomes involved there will be tenderness on pressure along the course of this vein, and it will also present a cord-like feel. Some of the deeper veins of the neck may also become thrombosed. At a late stage the cervical glands sometimes become enlarged. When an operation is postponed too long, pulmonary infarctions develop which in the early stage do not give rise to physical signs, and also general infection results; hence, the occurrence of septicemia and pyemia.

In all cases of brain complication, due to acute and chronic otitis media, the surgeon should first of all open the mastoid antrum and make this the starting-point of the operation; for it is in this cavity that the micro-organisms exist and where they rapidly fructify as long as the soil is fertile. Antiseptics injected into the middle ear do not reach them. The various cocci and bacilli found in the nasopharynx enter the tympanic cavity through the Eustachian tube. It is possible, however, for a purulent discharge in the ear to escape into the nasopharynx and cause a pneumonia, or if swallowed, the patient may have as a result a foul-smelling diarrhea.

The tympanic roof should be explored for a carious opening. If found, this should be enlarged and the bone just above the antrum cut away with forceps so that the dura in the middle cranial fossa may be thoroughly explored. From this point an exploring-needle may be introduced into the temporo-sphenoidal lobe if brain abscess be suspected. If the symptoms point to thrombus of the lateral sinus, the latter may be quickly exposed by cutting away the bone with chisels and forceps. In some cases a thrombus will be found in the sinus even when a needle has been introduced and fluid blood withdrawn, and also when the sinus pulsates. In such cases, it is necessary to open it with a bistoury. This may be done if everything required to plug the sinus in case of hemorrhage be at hand. If the indications point to abscess in the cerebellum, the sinus should always be first uncovered, and then the opening may be enlarged posteriorly and the cerebellum explored for pus.

The question of ligating the internal jugular vein, whenever a thrombus is found in the latter, is a point still unsettled. My own opinion is that it is un-

necessary to do this if it is possible to establish a free flow of blood in each end or the divided sinus. Pressure should be made on the neck from below upward along the course of the internal jugular vein in order to remove any thrombi in the lower end of the lateral sinus. A probe should be passed to the torcular and jugular bulb if necessary. If the flow of blood cannot be reestablished from the lower end of the sinus, it then becomes necessary to ligate the internal jugular vein, especially if there be tenderness or a cord-like induration along the vein. For fear of injuring some vessel in the brain it is better to use an instrument devised by Horsley rather than a sharp-pointed exploring-needle. I have never seen any bad results from exploring the different parts of the brain, if the operation is carefully performed and under strictly aseptic conditions.

All operations on the cranial cavity should be performed at an early stage of the disease if we wish to meet with success, and as rapidly as possible, for in many instances, I believe that patients are anesthetized for too long a time. I use the burrs recommended by Macewen in some cases, but, as a rule, I find that I can work more quickly with gouges, drills, and forceps. After evacuating the pus in a brain abscess great care should be exercised in syringing the cavity. A boracic-acid solution should be used, and afterward iodoform gauze loosely packed in the cavity. I prefer the gauze method of draining the abscess cavity to the use of drainage-tubes. In some cases in which the mastoid process is sclerosed, it will be necessary to remove a button of bone with the trephine in order to perform the operation as speedily as possible.

THE EARLY DIAGNOSIS AND TREATMENT OF EXTRA-UTERINE PREGNANCY.

By G. H. BALLERAY, M.D.,
OF NEWARK, N. J.:

GYNCOLOGIST TO THE PATERSON GENERAL HOSPITAL AND TO
ST. JOSEPH'S HOSPITAL, PATERSON, N. J.; OBSTETRICIAN
TO THE MATERNITY HOSPITAL, PATERSON, N. J.

UNTIL within the last fifteen years extra-uterine pregnancy was considered to be of such rare occurrence that most practitioners did not think it worth while to study the signs and symptoms which indicate the presence of this condition. Of late, however, a growing interest is being manifested in regard to its cause, diagnosis, and treatment. The cause of ectopic pregnancy is admitted to be some abnormal condition of the Fallopian tube, and it is generally conceded that almost all cases of extra-uterine gestation are primarily tubal—the almost endless variety described by the older writers being but accidental modifications of tubal pregnancy. We are indebted to Lawson Tait for the elucidation of

this subject, and I think it may be truthfully said of him that he has accomplished more than any other man in placing the pathology of extra-uterine pregnancy upon a rational basis. Not only has he clearly pointed out the pathology of ectopic pregnancy, but by example he has taught us how to successfully treat this serious condition. My remarks will be limited to the diagnosis and treatment of extra-uterine pregnancy in the early months; its diagnosis and treatment at, or after, full term is so thoroughly considered in several classic works that it would be useless to repeat it here. Moreover, my personal experience in this class of cases is limited to a small number, and does not entitle me to treat the subject from a practical standpoint. The diagnosis of ectopic pregnancy in the early months, before the rupture of the sac, may present considerable difficulty, but that it is impossible, as some writers have claimed, is very far from true. I do not claim to possess any special diagnostic skill, and yet I have been able to diagnose extra-uterine gestation at this time on several occasions—the diagnosis in each case being verified by abdominal section. In this connection the two following cases may be interesting:

CASE I.—Mrs. W., aged twenty-seven years, the mother of one child, nine months old. I was called to see the patient by Dr. Vroom of Ridgewood, N. J., on March 7, 1896. The patient's previous pregnancy had terminated during June, 1895, the only thing abnormal being that she flowed considerably at the time, and continued to lose a good deal of blood during the two subsequent weeks. After the birth of her child she did not menstruate until December 8, 1895. The flow continued nearly ten days and was rather profuse. The next menstrual period occurred January 8, 1896, and continued about the same length of time. Her third period came on March 6, 1896, and continued until I saw her on the 17th. The flow was at times rather profuse, and was accompanied by colicky pains in the abdomen, which were occasionally so severe as to require the use of morphin in moderately large doses.

The patient was very pale and anemic, and her pulse was rather frequent and soft; but she looked bright and cheerful and seemed to think that both her medical attendant and her husband were unnecessarily anxious in regard to her condition. On vaginal examination, I found the cervix enlarged and soft and the os uteri patulous.

The uterus, by conjoined manipulation, was found to be crowded over to the right side of the pelvis by a resilient mass situated to the left, and posterior to the uterus. The mass seemed to be about the size of a duck's egg and was not movable. The conclusion reached was that the case was one of left tubal pregnancy—the tube being firmly bound down by pelvic adhesions. I stated my opinion to Dr. Vroom, and urged the necessity of the immediate removal of the patient to the hospital, in order that

she might be operated upon without delay should rupture of the sac occur. The patient's husband, an exceptionally intelligent man, having been informed of the nature of the case, took measures to have her carefully removed the same afternoon to the Paterson General Hospital, the understanding being that I would operate upon her as soon as she had recovered from the fatigue of the journey—probably within forty-eight hours.

The following day Dr. Henry C. Coe of New York saw the case in consultation with me, and concurred in the diagnosis and the propriety of an early operation. Accordingly, assisted by my colleague, Dr. I. L. Leal, and in the presence of Drs. H. C. Coe, Wm. Blundell, E. J. Marsh, and others, I opened the abdominal cavity. The left Fallopian tube, the seat of an ectopic gestation, was found to be greatly enlarged and bound down by adhesions to the posterior face of the broad ligament, and also to the rectum and small intestines. The adhesions were carefully broken down, and the mass ligated and excised. On examination, the right tube was found dilated into a sac about two inches in diameter, but free from adhesions; it was also removed. On subsequent examination it was found to contain a fetus which had probably reached the tenth week of development. The pelvic cavity was carefully cleansed, a glass drainage-tube inserted, and the abdominal wound closed. The patient suffered severely from shock for about eighteen hours. She then began to rally and made an excellent recovery.

The points of interest in this case are as follows:

(1) That it was a case of double extra-uterine pregnancy; (2) that the diagnosis was based upon the physical signs alone, the history being entirely negative, and (3) the evident advantage of the use of the drainage-tube. The presence of the drainage-tube enabled me to correctly interpret the symptoms which the patient presented a few hours after operation. These symptoms were extreme pallor, and coldness of the surface, including the face, very rapid and feeble pulse, widely dilated pupils, and sighing, almost gasping, respiration, with constant restlessness. The "air-hunger" was marked. A careful examination of the drainage-tube showed that there was no hemorrhage, only a moderate amount of bloody serum being discharged. The treatment consisted in keeping the foot of the bed elevated, application of warmth to the surface, administration, *per rectum*, of hot saline solution containing a large proportion of brandy, and the hypodermic injection of strychnin and enough morphin to allay restlessness. Under this treatment the shock gradually passed away, and the patient rapidly progressed toward recovery. So strongly did the symptoms point to the occurrence of hemorrhage that had it not been for the presence of the drainage-tube I should have been sorely tempted to reopen the abdomen, and such a course would in all probability have resulted fatally.

CASE II.—I was called on the evening of March 31, 1896, by Dr. Homer Sylvester, then House Surgeon at St. Joseph's Hospital, Paterson, N. J., to see Mrs. R., a ward patient, admitted a few hours previously. Dr. Sylvester informed me that he thought the case one of ectopic pregnancy. The patient was a poorly nourished woman, thirty-two years of age, the mother of five children, the last child being two years old. She had last menstruated normally three months previously. She had then gone over two months without any menstrual flow. Three weeks before admission to the hospital she began to have a slight bloody discharge from the vagina, attended by colicky pains in the lower part of the abdomen. The pains and bloody discharge would occasionally cease for two or three days and then recur and continue three or four days. At no time was the pain sufficiently severe to confine her to bed, and the bloody discharge was never profuse. At times the blood which escaped from the vagina was clotted, and the patient thought she had noticed a shreddy substance in the clots expelled. Her pulse varied from 86 to 94 per minute, and was soft and compressible; the temperature was 99° F. Physical examination disclosed a mass to the left, and posterior to the uterus; it was not movable and displaced the uterus slightly upward and to the right. By means of conjoined manipulation the body of the uterus was found somewhat enlarged. The cervix was enlarged and presented that peculiar softness which is the rule in the early stages of pregnancy. A diagnosis of extra-uterine pregnancy was made.

From the immobility of the mass, I was satisfied that the Fallopian tube, the seat of the ectopic gestation, was firmly bound down in the pelvis by adhesions. As it was late in the evening, and as I had several important engagements for the following day, I fixed on the day after for operation, it being understood that Dr. Sylvester should at once notify me should symptoms of rupture occur in the meantime. At 9.30 A.M. on the morning of April 2, 1896, I went to the hospital prepared to operate. I learned that about four hours previously there had been an unfavorable change in the patient's condition. She had been seized with pain in the lower part of the abdomen, and shortly after the pulse became much more frequent than it had been before. I found her with a pulse of 120, lips somewhat blanched, temperature 98° F., and complaining of some pain in the abdomen. I concluded that the fetal sac had ruptured, and that a moderate hemorrhage into the peritoneal cavity had occurred. Stimulants and anodynes having already been administered, and the field of operation having been prepared, the patient was anesthetized and taken to the operating-room. With the assistance of my colleague, Dr. Jas. W. Smith, and in the presence of the hospital staff, I opened the abdomen. About a quart of blood (fluid and clotted) was found in the peritoneal cavity. The fetal sac, except at the point of rupture, was adherent to the rectum, small intestine, and posterior surface of the broad ligament. The adhesions were carefully separated and the sac removed. As the right

ovary and tube were diseased, they were removed. The peritoneal cavity was flushed with a hot saline solution and thoroughly cleansed. A glass drainage-tube was then inserted, and the abdominal wound closed. Under the influence of stimulating enemata, the patient reacted well. The drainage-tube was removed on the third day, and the patient left the hospital in good condition at the end of the fourth week.

The points of interest in this case are: the typical history; the diagnosis before rupture, and the emphasizing of the importance of prompt action as soon as the diagnosis is made.

Under less favorable conditions, the loss of time which occurred in this case between the diagnosis and the operation might have resulted disastrously. On subsequent examination the fetal sac was found to contain both fetus and placenta, together with a small amount of clotted blood.

It is highly important that the physician engaged in general practice should be fully alive to the comparative frequency of extra-uterine pregnancy. He will then be on the alert, and will not be liable to overlook the condition simply because it does not present the whole array of classic symptoms. It is he who generally sees the case first, and upon his early recognition of its true nature will often depend the issues of life or death.

Some idea of the comparative frequency of ectopic pregnancy may be gathered from the fact that according to the records of the Paterson General Hospital (which as its name implies is a general hospital, and not a special institution for women) seven women have been operated upon for ruptured tubal pregnancy during the past eight months. These were all cases of rupture into the peritoneal cavity. A case in which rupture occurred between the layers of the broad ligament was also admitted during this period. This patient was not operated upon, and she recovered. During the past year, within a single month, the writer operated successfully in three cases of tubal pregnancy, and within a few weeks thereafter saw, with two medical gentlemen of large experience, two other patients who were actually moribund when first seen, and were, therefore, not operated upon. In neither case had the physician in attendance suspected the true nature, although the symptoms in both, as described by the medical attendants, were almost pathognomonic.

Diagnosis.—The diagnosis of ectopic pregnancy in the early months, before rupture of the fetal sac, is based upon the history and the physical findings. In a certain proportion of cases the history is such as to create a strong presumption in favor of the presence of this condition; on the other hand, the history is

often misleading, and in a large proportion of cases there is absolutely no history beyond the fact that the woman presented the usual symptoms of pregnancy and believed herself to be normally pregnant. In the latter case rupture of the sac is the first indication that anything abnormal exists. This terrible accident may then suddenly occur absolutely without premonition. It was formerly believed that extra-uterine pregnancy occurred almost invariably in women who had previously been sterile; *i. e.*, who either had never been pregnant or had not borne a child for a long period prior to the occurrence of the abnormal gestation. That sterile women are more likely to become subjects of extra-uterine pregnancy than those who have frequently borne children is probably true, but, at the bedside, neither previous sterility nor fecundity should be allowed to enter as a factor in the diagnosis. It should be remembered that all women during the child-bearing period are liable to the occurrence of extra-uterine pregnancy. If this is borne in mind fewer blunders in diagnosis will occur; and fewer lives will be sacrificed by that criminal procrastination which defers until too late the only rational means of saving the patient's life.

In a typical case the history of the patient is about as follows: There has been cessation of the menses for one, two, or three months, during which time the patient may or may not have experienced some of the symptoms which are supposed by her to be indicative of the occurrence of pregnancy, *viz.*, such as morning sickness, tingling sensations in the breasts, etc. After a time, varying in different cases, she begins to experience colicky pains in the lower part of the abdomen, accompanied by a discharge of more or less blood from the vagina. The blood is sometimes fluid, sometimes clotted, and occasionally shreddy substances are noticed in the discharge by the patient or by those in attendance. Mixed with the vaginal discharge a membranous mass, resembling a cast of the uterine cavity, is occasionally expelled. These symptoms (loss of blood and colicky pains) may disappear to again recur at intervals of a few days, or the flow of blood may be almost continuous and the colicky pains rarely absent for more than a few hours at a time, although they may not be sufficiently severe to confine the patient to bed, or require the administration of anodynes. The flow of blood is rarely profuse, almost never resembling the active bleeding accompanying an early abortion. The typical symptoms, then, are amenorrhea, followed by irregular discharge of blood from the vagina, recurrent colicky pains in the lower part of the abdomen, and occasionally the discharge of portions of deciduous membrane.

Upon physical examination, the uterus will generally be found enlarged if gestation has continued

beyond the second month. The softness of the cervix, which is so marked, as a rule, in normal pregnancy, is not always present in ectopic gestation. I have observed it in three cases. In multiparae the os is sometimes patulous. On one side of, and sometimes behind the uterus, a soft, resilient mass, varying in size according to the stage of the pregnancy, can usually be detected. On careful bimanual examination, it is found to be very close to the body of the uterus, and seems to crowd the organ somewhat to the opposite side of the pelvis. It is, as a rule, not difficult to make out that it is not continuous with the body of the uterus. Examination, *per rectum*, sometimes enables the practitioner to correctly appreciate the relations of the tumor.

The changes in the breasts, characteristic of pregnancy, may or may not be present. In a case presenting the history and physical signs detailed above, there should not be much hesitation on the part of the practitioner in coming to a conclusion in regard to the presence of ectopic pregnancy. If, however, he remains in doubt, an anesthetic should be administered and another careful examination made. Emptying of the bladder and rectum should precede this examination; as, indeed, it should all examinations of the female pelvic organs.

Differential Diagnosis.—The following hints may aid in the differential diagnosis between early ectopic pregnancy and the conditions for which it is likely to be mistaken. In retroflexion and lateroflexion of the gravid uterus, the tumor behind or to one side of the cervix is continuous with it. The cervix is enlarged and softened, and the fundus not in its normal position behind the pubes. There is no colicky pain, and no bloody vaginal discharge—unless an abortion is impending, or has recently occurred. In hydrosalpinx, pyosalpinx, ovarian abscess, small adherent ovarian cyst, and small cysts of the broad ligament, the uterus is not enlarged, and the usual signs and symptoms of pregnancy are absent unless a normal pregnancy coexists. Recurrent colicky pains and irregular bloody discharges from the vagina are not usual accompaniments of these conditions.

In acute pyosalpinx and ovarian abscess, more or less constant pain and tenderness on pressure are present, accompanied by elevation of temperature. In small myomata, the body of the uterus is enlarged, but the menstrual flow is not suppressed, and there is no semi-fluctuating or boggy mass on either side of the uterus.

Early pregnancy in the rudimentary horn of a malformed uterus, cannot be differentiated from ectopic pregnancy; nor is it essential that it should be, as the treatment is operative in both. Pregnancy in

one horn of a well-formed bicornuate uterus may be distinguished from ectopic pregnancy only in cases in which a vaginal or cervical septum exists. In the absence of this distinguishing feature the diagnosis must remain doubtful. From pregnancy in one-half of a double uterus, the differential diagnosis may be easily made, if, in addition to a well-formed double uterus, there is a double vagina. In a case which I saw with my colleague, Dr. Harris, this condition obtained. The patient had symptoms which made the physician apprehensive of the existence of ectopic pregnancy, but after a careful examination it was concluded that the pregnancy had occurred in the right half of the uterus. Both cervixes were well developed; and the os uteri of each was normal in appearance. Our determination to wait was rewarded in a few days by a verification of the diagnosis; for the patient aborted.

In a case in which, after careful bimanual examination, serious doubt exists as to whether the pregnancy is intra- or extra-uterine, the use of the sound has been recommended in order to ascertain whether or not the uterus is empty. While the use of the sound may be justifiable in certain cases, its indiscriminate employment cannot be too strongly deprecated.

There are two other conditions which, according to some authors, may be confounded with early ectopic pregnancy, *vis.*, hematoma of the broad ligament, and hematosalpinx. The writer has not referred to these conditions, for the reason that he believes that Bland Sutton is right when he says that nearly all cases of hematosalpinx are the result of a blighted tubal pregnancy, and as regards hematoma of the broad ligament, it is the writer's belief that in ninety per cent. of the cases this condition is the result of rupture of an early tubal pregnancy into the cellular tissue between the layers of the broad ligament.

The diagnosis after rupture of the gestation-sac is based upon the evidences of abdominal shock and concealed hemorrhage. Violent pain in the lower part of the abdomen, followed by symptoms of collapse, is the rule in all cases of intraperitoneal rupture attended by profuse hemorrhage. When the hemorrhage is less profuse the symptoms of collapse come on more slowly. Cases in which the Fallopian tube, the seat of the ectopic gestation, is perfectly free in the pelvic cavity previous to rupture, are, as a rule, attended by more profuse hemorrhage than those in which the tube is bound to surrounding structures by adhesions. The hemorrhage is generally out of proportion to the development of the gestation-sac; the earlier the rupture occurs the more rapidly fatal the hemorrhage.

The two following cases will illustrate these points:

CASE III.—I was called by Dr. Flitcroft, May 3, 1894, at 11 A.M., to see Mrs. V., a German, aged twenty-eight years. The patient had never been pregnant before, although she had been married eight years. Her last menstruation had occurred three months previously. When she was first seen by Dr. Flitcroft, a few hours before my visit, she complained of severe pain in the lower part of the abdomen, and there was a slight bloody discharge from the vagina. The doctor made a vaginal examination, and, finding no dilatation of the os uteri, concluded that the case was merely one of threatened abortion. After having given directions as regards the management of the patient, and requested the attendants to send for him should she become worse, he left the house. When he was called the second time he found the patient still complaining of pain in the abdomen, though it was not as severe as it had been at the beginning of the attack. Her countenance, however, had changed, and her pulse was more frequent and weaker than it had been at his first visit. The os uteri was not dilated. The doctor concluded that there was something seriously wrong with the patient, and requested me to see her with him. I found her with a pulse of 126, skin cool, face pale, but not anxious.

She was a short, fat woman; and, on inquiry, I learned that previous to the attack she had had a very florid complexion. The results of a vaginal examination were negative. No swelling of any kind could be detected on either side, or posterior to the uterus.

I expressed to Dr. Flitcroft the opinion that the case was one of ruptured tubal pregnancy, and that an operation should be performed without delay. He heartily concurred in this opinion, and expressed surprise that he should not have made the diagnosis himself in view of his previous experience.¹

As the environments of the patient were such as to preclude the possibility of operating upon her in her own home, she was removed as quickly as possible to the Paterson General Hospital. As showing how very important it is not to waste any time in this class of cases, I will state that in the time which it took to remove the patient to the hospital the change for the worse in her condition was really alarming. Her pulse rose to 156, and the surface was cold and covered with perspiration. She appeared to be moribund, and yet the time occupied in her removal was less than two hours. Hot saline solution and brandy was injected into the rectum, the field of operation quickly prepared, and the patient anesthetized and taken to the operating-room. Assisted by Dr. Jas. W. Smith, I performed abdominal section.

As soon as the peritoneum was incised fluid blood

¹ Dr. Flitcroft had had within two years the unique experience of being present at the bedside of a patient at the moment of rupture of a tubal pregnancy. The patient was conversing cheerfully with the doctor when she was suddenly seized with an agonizing pain in the abdomen, and very soon afterward showed symptoms of collapse. Dr. Flitcroft called to his aid Dr. C. S. Van Riper, who promptly opened the abdomen and removed the ruptured gestation-sac. A large amount of blood was found in the peritoneal cavity. The patient recovered.

welled up from the abdominal cavity and ran down upon the floor of the operating-room. I quickly passed my fingers down through the mass of blood-clot into the pelvic cavity, and found that the ruptured gestation-sac was the left Fallopian tube. This was brought up into view through the incision, when it was observed that there was a rent in its walls through which the fetus had escaped, and from which bright-red blood poured in a constant stream. A figure-of-eight ligature was applied and the sac cut away. The abdominal and pelvic cavities were cleansed of blood, flushed with hot saline solution, and the abdominal wound closed. A three-months' fetus was found among the blood-clots; the placenta had been retained within the sac and was removed with it. It was estimated that more than a gallon of blood had been removed from the peritoneal cavity. Although the patient's condition was desperate at the time of operation, she rallied under the influence of active stimulation, and made an excellent recovery.

CASE IV.—Mrs. R., aged twenty-three years, married nine months, was admitted to the Paterson General Hospital, January 21, 1897. The history was that she had been seized with violent pain in the abdomen the evening previous to admission, and had gradually gone into the condition of collapse in which she reached the hospital. Shortly after she was taken ill she was seen by Dr. John T. Gillson, but when the doctor was informed by the patient that she had menstruated regularly—the last time only three weeks previously—he dismissed the idea of ectopic pregnancy from his mind, and attributed the pain to some form of intestinal disturbance. When he saw her the following morning he became convinced that intraperitoneal hemorrhage was going on, and sent her to the hospital. I was at the hospital when she was admitted, and the senior house-surgeon requested me to see her at once. She was almost pulseless, and death seemed imminent. The extreme pallor of the surface and waxy appearance of the lips, taken in connection with the sudden onset of the attack, in a person previously in robust health, left no doubt in my mind as to the existence of intra-abdominal hemorrhage. The result of a vaginal examination was entirely negative—nothing abnormal could be detected.

The rectum being found empty, a stimulating enema of hot saline solution and brandy was at once administered, and the field of operation having been prepared, abdominal section was performed. On opening the peritoneal cavity a large quantity of fluid blood escaped. The whole abdominal and pelvic cavities were filled with clotted blood. The right Fallopian tube was the source of the hemorrhage and was removed, together with the ovary, which was cystic. The ectopic sac was situated almost at the fimbriated end of the tube, and was lined by a rather thick membrane. Its size, when collapsed, would indicate that before rupture it was no larger than a hazelnut. In spite of active stimulation, the patient never rallied and died within twenty-four hours.

In this case the exsanguination was complete, and no amount of saline solution could take the place of the blood lost. Had this patient been operated upon early there is every reason to believe that she would have recovered. Her history, however, was misleading, and her physician was at first deceived by it. In this and the preceding case the fetal sac was entirely free from adhesions to surrounding parts.

When rupture occurs between the layers of the broad ligament the evidences of shock and loss of blood may be marked, but rarely to the same extent as when it occurs into the peritoneal cavity. The differential diagnosis rests upon the result of a physical examination. A large, soft, boggy mass is found on one side, and posterior to the uterus. The uterus is crowded to the opposite side, and the cervix is pushed under the pubes, and, in a large proportion of cases, the os uteri seems to point directly upward. I know of no other condition which gives rise to this particular form of uterine displacement. I regard it as a sign of the greatest diagnostic value. If a physician previously makes a vaginal examination and detects a small mass on one side of the uterus, its sudden increase in size, accompanied by symptoms of shock and concealed bleeding, can be due but to one cause, *viz.*, intraligamentous rupture, with hemorrhage between the layers of the broad ligament. When rupture of an early tubal pregnancy into the peritoneal cavity occurs, any small mass, situated on one side of the uterus, which may have been previously detected, will generally be found to have disappeared, unless the pregnant tube is bound down by adhesions, and the effused blood, to a certain extent, encapsulated. The treatment of extra-uterine pregnancy should be purely surgical, all other methods should be condemned as both inefficient and dangerous. If the diagnosis is made before rupture has occurred, the abdomen should be opened and the gestation-sac removed. If rupture has already occurred, not a moment should be lost in resorting to abdominal section, for a very brief delay may result in the death of the patient from hemorrhage. When the abdomen is opened there is generally an escape of fluid blood and the pelvis is found filled with blood-clots, through which the surgeon passes his fingers to the fundus of the uterus, and then along the broad ligament on each side until the site of the gestation-sac is determined. The sac is immediately brought to the surface, securely ligated at its base, and cut away. The abdominal and pelvic cavities are then flushed with hot saline solution, and sponged until free of blood. If the sac is found adherent to surrounding structures the use of a drainage-tube will add to the patient's chances of recovery. If the hemorrhage has been great, and the patient is much

depressed, hot saline solution should be injected into the rectum. Brandy or good whisky may be given with the saline solution, and may also be given by the mouth in small doses frequently repeated, and in very hot water, as hot as the patient can bear. Morphine and strychnin administered hypodermically are generally indicated. When the patient has reacted her strength should be supported by nutritious liquid diet.

Intraligamentous Rupture.—When rupture of an early tubal pregnancy occurs and the fetus (fetal debris) and effused blood escape between the layers of the broad ligament, constituting what was formerly known as extraperitoneal hematocoele, but now designated hematoma of the broad ligament, the interests of the patient will be best secured by letting her alone. These cases, as a rule, are fatal only through the officiousness of the medical attendant. If the patient be kept quiet, and trust put in *meditrix natura*, it will generally be found that at the end of a few weeks the effused blood and fetal remains have been absorbed, and that nothing is left but a slight thickening of the broad ligament on the affected side.

The only exception to this rule occurs in cases in which suppuration of the hematoma supervenes, or in those very exceptional instances in which, after primary intraligamentous rupture, secondary rupture through the roof of the broad ligament into the peritoneal cavity occurs. Cases of the latter class demand prompt and decisive action. The abdomen must be opened, the cavity of the broad ligament emptied of clots and packed with iodoform gauze, an end of which should be brought out through an opening in the vagina for drainage. The rent in the roof of the broad ligament may then be closed with a fine catgut suture. If the hemorrhage cannot be controlled in this manner, hysterectomy should be performed. In suppurating hematoma of the broad ligament, vaginal section, washing of the cavity with a disinfectant solution, and gauze drainage are indicated. It will be observed that in the treatment of ectopic pregnancy in the early months, abdominal section is the only method which I have advised. My reasons for so doing are, in the first place, my personal experience is limited entirely to this operation, and, in the second, I fail to appreciate the advantages of operation by the vaginal route which are claimed by the advocates of that method. The operation through the abdominal wall gives more room for work; the manipulations are performed under the guidance of the sense of sight, as well as touch, and in cases of intraperitoneal rupture, with the accumulation of large quantities of clotted blood in the abdominal and pelvic cavities, the cleansing

of the peritoneal cavity can be more quickly and effectually performed.

Summary.—The points which I wish to emphasize are as follows:

1. Early ectopic pregnancy may be diagnosed before rupture has occurred, provided an opportunity to make a careful examination be afforded.
2. In the differentiation of early ectopic pregnancy from conditions which simulate it, a painstaking examination *per vaginam* and *per rectum*, under anesthesia, offers the best chance of making a correct diagnosis.
3. The use of the uterine sound as a means of diagnosis may be permissible in cases of grave doubt as to whether the pregnancy is intra- or extra-uterine; but its indiscriminate employment cannot be too strongly condemned.
4. In case of grave doubt as to whether or not early ectopic pregnancy be present, but when the presumption is strongly in favor of its existence, exploratory abdominal section is not only permissible, but imperative.
5. Abdominal possesses many advantages over vaginal section, and should, therefore, always be the operation of election in this class of cases.
6. All cases of early ectopic pregnancy, except those in which intraligamentous rupture has occurred, should be operated upon as soon as the diagnosis is made. Procrastination may mean death to the patient.

VIBRATORY THERAPEUTICS.

By FREDERICK PETERSON, M.D.,

OF NEW YORK;

PROFESSOR OF INSANITY IN THE WOMAN'S MEDICAL COLLEGE;
VISITING NEUROLOGIST TO THE CITY HOSPITAL.

IN view of the well-deserved attention during recent years to the various so-called natural methods of treating disease, such as massage exercises, hydrotherapy, dietetics, and the like, I have thought it well to add my experience to that of several others in regard to the rather novel method of treatment of nervous diseases by means of vibration. Vibration may properly be divided into two classes, *vis.*, mechanical and kinetic. The former is obtained by means of a variety of vibrating mechanical apparatus. The term kinetic seems to me applicable to the finer variety of vibration induced by some force such as electricity, an example of which is afforded by the sinusoidal current.

Mechanical vibration for therapeutic purposes was in use long before any mention of it found place in medical literature; for its value was recognized by the earliest of the originators of the Swedish system of gymnastics and massage. It was practised before Zander devised mechanical apparatus for the pur-

pose. It seems to have been as late as 1878 before it attracted the attention of physicians and was made the object of investigation both as to therapeutic value and mode of action. Thus, in the same year appeared Horvath's¹ article on "The Influence of Rest and Movement upon Life," and the article by Vigouroux² upon "The Results of Vibratory Treatment of Nervous Diseases in the Service of Charcot at the Salpêtrière." The next reference to the subject was made two years later by Mortimer Granville, who applied vibration to the treatment of neuralgia, and he invented a vibrating hammer for application of vibration to affected nerve trunks. He published brief articles during 1880 and 1881 in the *Lancet*, and, during 1882 and 1883, in the *British Medical Journal*, but his brochure, entitled "Nerve Vibration and Excitation as Agents in the Treatment of Functional Disorders and Organic Disease," was not published until 1883. Baudet published an article on the treatment of pain by mechanical vibration in *Progrès Médical*, February 5, 1881. With the exception of an occasional biologic reference to the subject, such as Reinke's article in *Pflüger's Archiv*, 1880, on the influence of mechanical shaking on the development of certain fungi, and one or two others mentioned by Meltzer in his paper on "The Importance of Vibration to Cell-life" (*New York Medical Journal*, December 24, 1892), nothing appeared in medical literature in relation to vibration until Charcot (*Prog. Méd.*, p. 149, 1892) and Gilles de la Tourette (*N. iconog. de la Salpêtr.*, p. 265, 1892) introduced the matter again to the profession with considerable acclaim. Outside of strictly medical circles, however, vibratory therapeutics had continued to develop, and before Charcot's paper was published the vibrating machine invented in Sweden by Liedbeck had been in use and even covered by an American patent as early as 1890.

W. B. Tomson published a brief note in the *Lancet*, i, p. 1299, 1890, entitled "General Appreciation of Vibration as a Sense Extraordinary," citing the cases of two deaf persons with remarkable sensitiveness to vibration; an interesting note from a speculative point of view, because the nervous system does seem to be often susceptible in an extraordinary degree to mechanical vibration. Morselli, during 1892 and 1893, wrote upon mechanical vibration as a means of cure of nervous and mental diseases, and his work is especially interesting and valuable (*Terap. Mod. Padova*, 1892, vi, 568, and also *Boll. d. r. Accad. med. di Genova*, 1893, 33).

With the exception of a paper by Dr. Patrick in the *Chicago Medical Recorder* during 1894, the above

constitutes all I have been able to find in medical literature on vibratory therapeutics.

Regarding the apparatus used for the purpose, Larat and Gautier, made for Charcot and Gilles de la Tourette the *casque vibrant* and the *fauteuil trepidant* employed by them. The *casque vibrant* is simply a metal helmet upon the top of which is fixed a small electric motor, its trembling motion being communicated by this means to the whole head. The *fauteuil trepidant* or shaking chair was constructed especially for cases of paralysis agitans, but is also used for other purposes, and is merely a chair mechanically adjusted to simulate the tremor of a train or omnibus.

In my own practice I have employed three varieties of apparatus. The first is a modification of the one in use at the Salpêtrière. It was made for me by Messrs. Waite & Bartlett of New York, and consists of a small motor with an eccentric adjustment to regulate the force and frequency of the tremor. This motor is fixed upon the head by means of clasps and a strap (Fig. 1).

FIG. 1.



Electric vibrator for the head.

Another instrument made for me by the same firm is modeled upon the electric engraving-tool. It consists of a rod with an up and down movement affixed to the same motor used for vibrating the head. With this apparatus the trunks of nerves may be tapped and vibrated with any degree of frequency required (Fig. 2).

The third and best apparatus is one which may be used for administering vibration to any part of the body, to a nerve trunk, to the eye, the larynx, the head, a limb, the spinal column, and with any degree of force or frequency desired. It is an adaption

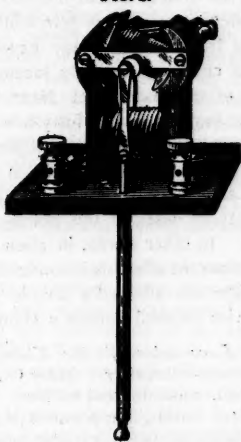
¹ *Pflüger's Arch.*, 1878, p. 125.

² *Prog. Méd.*, 1878, p. 746.

of the Swedish Liedbeck machine, but is operated by electricity (Fig. 3).

The effects of vibration will vary with the degree

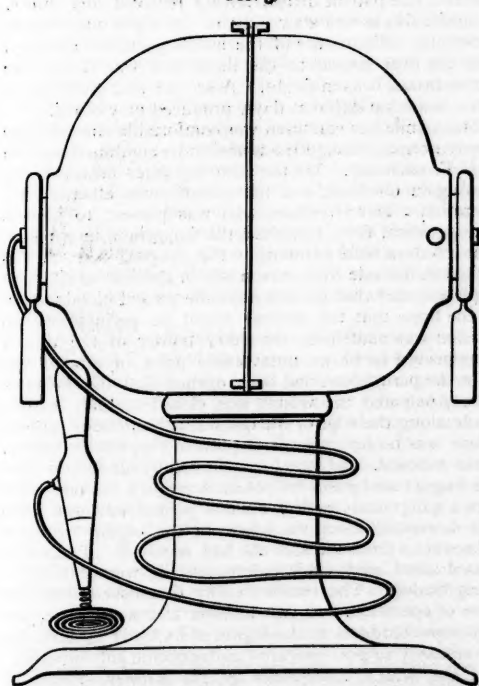
FIG. 2.



Electric vibrator for nerve trunks.

and duration of the application. A harmful effect may be induced by too prolonged vibration, while

FIG. 3.



Leidbeck's electric vibrator for general use. It is provided with a number of terminals suitable for application to any part of the body.

moderate vibration has a favorable action, as shown by Meltzer in his experiments on the influence of

shaking upon micro-organisms. Prolonged shaking destroyed the germs. Meltzer assumes, and rightly it appears to me, that shaking produces a vibration in the physiologic units of cells. It may be considered an established fact that one of the direct effects of vibration is to modify nutrition in the part treated. Growth is stimulated by mild vibration; strong vibration causes rapid katabolism. The chief virtue of this form of therapeutics lies in its influence upon the nervous system. Applied to the head, the whole skull-wall is shaken, together with the brain, and in a few minutes a pleasant torpor or lassitude is experienced with a tendency to sleep. A ten-minutes' séance will often induce a sound night's sleep in insomnia, and the Charcot school has claimed that eight to ten such séances completely cure insomnia when it is not due to organic brain disease. During the séance a dim monotonous murmur is heard in the ears. On cessation of the tremor sometimes a light vertigo is experienced. Applied to the spine or to large nerve trunks, a similar restful feeling is induced with an inclination to drowsiness. In fact, the effect upon the nervous system is that of a powerful sedative. This is borne out by its use in paralysis agitans, and I can corroborate the statements of the Charcot school that it causes the tremor to diminish, lessens the rigidity, and above all causes the disappearance of one of the nearly insupportable symptoms of Parkinson's disease, the general feeling of restlessness, malaise, and fatigue. I have tried it in some of the neuralgias of peripheral nerves, in neurasthenic and hysterical conditions and in headaches, I have also made use of vibration in hysterical aphonia and in obstinate ringing in the ears. In all of these conditions its therapeutic effects were marked and valuable.

CLINICAL MEMORANDUM.

A PERSONAL EXPERIENCE IN RENAL SURGERY.

By ROBERT F. WEIR, M.D.,

OF NEW YORK;

PROFESSOR OF SURGERY IN THE COLLEGE OF PHYSICIANS AND SURGEONS, AND SURGEON TO THE NEW YORK HOSPITAL;

WITH THE COLLABORATION OF

EDWARD M. FOOTE, M.D.,

OF NEW YORK;

SURGEON TO THE RANDALL'S ISLAND HOSPITALS.

(Continued from page 131.)

ABSCESS OF THE KIDNEY.

In this group of cases are found two of traumatic origin, both of which were treated by means of nephrotomy. The result in one case, a recent one, was perfect. The other patient died within four days of suppression of the urine, and it was found that of the injured kidney only a fragment remained, and that the other one was

affected by a diffuse suppurative inflammation. Following these instances, are two of idiopathic abscess, in one of which, originating in a gonorrhea, coli bacillus was extensively found in the minute multiple abscesses of the extirpated organ. Both patients did well after nephrectomy.

Surgical aid has not, I believe, until recently been extended to that form of renal sepsis which is mentioned under the title of "surgical kidney," or suppurative interstitial nephritis. By this is meant the acute infection which often occurs in this viscus from a rapidly ascending inflammation, and which shows itself at the autopsy, for it is always fatal in its results, as a swollen and congested kidney studded with numerous pus foci. The smallest of these are not visible to the eye, but microscopically groups of pus-cells are found between the tubules. Larger purulent streaks surrounded by zones of congestion are also often seen running parallel to the tubules. Great numbers of miliary abscesses may be seen or felt on palpation. In the living kidney it is sometimes difficult to recognize the small purulent collections because of the bleeding of the incised kidney, though their touch often aids the ineffectual vision. Therefore, from its great interest, I venture to report, in a condensed form, the following history of a case of this kind, previously published,¹ wherein the nephrectomy saved the patient's life. It marked an advance in renal surgery, and has since been followed in several instances by German colleagues.

CASE XIX. Multiple Septic Abscesses of Kidney (Acute Surgical Kidney)—Nephrectomy—Recovery.—Henry D., aged twenty-five years, entered New York Hospital, March 28, 1894, with a history of nephritis existing for four years, following scarlet fever. One year before admission he had had gonorrhea, and again three months before he had had a second attack of the same disease, the last invading his bladder. The cystitis improved, but twelve days before entrance to the hospital it grew worse, with the development of chills and fever, nausea and vomiting, and pain in the right lumbar region. On April 3d, when I saw him by request of his medical adviser, Dr. P. R. Bolton, he was in a serious condition, with an irregular temperature ranging from 101° to 105°F., and an acid urine containing pus and about twelve per cent. of albumin by volume. The right kidney was very tender and slightly enlarged.

April 4th, by means of König's curved incision, the kidney was exposed. No pus could be obtained by aspiration, but an incision was made into the organ, which was twice its normal size, deeply congested, and softened. It was then seen to be riddled with minute abscesses, and was removed after ligation of the pedicle and ureter with floss silk. The cavity was packed with gauze, and the wound partially closed. The patient left the operating-room in good condition, but collapsed within two hours. Under vigorous stimulation his condition improved, and he gradually became convalescent. The ligature separated within one month. Six weeks after the operation there was still a small amount of pus in the urine, and about eight or ten per cent. of albumin by volume, but there were no symptoms referable to the bladder. He was discharged in good condition with a superficial granulating wound in his loin. Cultures from the nephritic abscesses developed colonies of the bacillus coli communis, but none of the gonococcus. The kidney

measured 14x6.5x4.5 inches. The patient made a complete recovery, and when heard from, three weeks later, was in good condition.

In this patient, the mass of symptoms being confined to one side, led me to believe that the infection was limited to this kidney alone. This determined the extirpation. As to the frequency one may expect to find an infection of this character similarly located, the investigation I made of the material of New York and St. Luke's hospitals showed that in forty-five cases of true surgical kidney (large single or multiple abscesses and those of chronic form being excluded), in six instances it presented itself as a one-sided lesion. Malherbe and Bazy also found twenty-six cases of this disease in which six were one-sided. In other words, in about seventeen per cent. of all the cases the affection is confined to one kidney. Even if both sides are affected a double incision might give the otherwise doomed patient a chance.

CASE XX. Laceration of the Kidney—Pyelonephritis—Nephrotomy—Recovery.—Mary O., aged twenty-six years, married, was admitted to New York Hospital, October 6, 1884. During the previous May she had had a miscarriage, with persistent uterine hemorrhages and attacks of abdominal inflammation. Her symptoms had disappeared by August 15th. One month later, just after a menstrual period, she again began to have pain in the abdomen, with nausea and fever. Urination was frequent and painful, and the urine contained pus, casts, and blood. The patient denied having received any injury. A needle thrust into a swelling in the right iliac region drew pus. The nature of the swelling, which extended from the liver almost to the ilium and was nearly five inches broad, was in doubt. A second and third punctures, made on different days, produced only blood.

Meanwhile her condition was comfortable and the urine nearly normal, though the temperature continued to reach 105° F. each day. On the fifth day after entrance pus was again obtained, and the patient was etherized for operation. Her physician, who was present to witness the operation, then furnished the important information that ten days before coming to the hospital Mrs. P. was kicked in the side by a person whom she was unwilling to implicate, and that for two days she passed bloody urine. In the hope that the abscess might be perinephritic an incision was made over the outer border of the tumor. This proved to be an unfavorable point of attack, and after the peritoneum had been opened and the inflamed kidney palpated the wound was closed and an incision made along the edge of the quadratus lumborum muscle. There was no perinephritic deposit of pus, but the kidney, when exposed, was found so softened by suppuration that the finger could easily be poked through it in one place into a gangrenous cavity, while a jagged rent ran from this downward along the border of the organ, evidently a laceration from the kick she had received. The cavity was drained, and within one month the wound was entirely healed. The tumor rapidly diminished from the time of operation, but two months afterward there was still some hardness at the region of its lower portion, due presumably to post-operative perinephritic inflammation.

CASE XXI. Laceration of the Kidney—Perinephritic Abscess and Renal Fistula—Nephrotomy and Subsequent Nephrectomy—Death.—Bernard M., aged twenty years, entered New York Hospital during the fall of 1886. Three years previously he had fallen six feet and struck his right side upon an iron bar. Hematuria, followed by local pain, swelling, and fever showed an in-

¹Weir, *Trans. Am. Surg. Ass.*, vol. 12, p. 121, 1894.

jury to the kidney, resulting in an abscess. An incision was made into this by my colleague, Dr. Bull, and a large amount of pus evacuated. The resulting sinus healed, but subsequently opened several times. Since July, 1886, the pain in the flank and in the rectum prevented the patient from going about. Examination showed a large fistulous opening in the right loin midway between the ribs and ilium. From this, a probe passed nine inches downward into the iliac fossa along a tract which was both indurated and tender. Near this fistula was another leading toward the kidney to a depth of four inches. These openings discharged from four to six ounces of pus daily. Rectal examination was negative. The urine was slightly albuminous, and contained a few pus-cells. The daily excretion was from fifty to sixty ounces. The patient's condition was poor. He was steadily deteriorating in general health.

Under ether, a curved incision passing through both fistulae was made through tissues matted together by old inflammation, and a cavity was opened through the thin wall of which the movements of the abdominal viscera were plainly felt. The sinus into the iliac fossa was then laid open, and another one extending into the pelvis was also drained. Examination of the cavity with an electric lamp showed a rent in its wall three inches long through which the liver and gall-bladder were visible. As no kidney had as yet been found, search was made for it through this opening into the peritoneal cavity, but no trace of it was discovered. The rent was closed with catgut sutures, and the wounds filled with gauze. Death occurred four days later. There was a marked rise of temperature forty-eight hours after the operation, followed by persistent vomiting and almost complete suppression of urine.

At the autopsy, the left kidney was found in a state of acute suppurative interstitial inflammation with pus under its capsule. There was no peritonitis. The lower two-thirds of the right kidney had entirely disappeared. The upper portion of the cavity referred to was formed by what was left of the kidney. In this cavity were two sponges, which had been crowded in to control hemorrhage, and had been left *in situ*. One of them was firmly adherent. They had not given any foul odor to the discharge. The sinus leading into the pelvis terminated behind in a pus-cavity, which led to the bladder and rectum and also extended through the right sacrosciatic notch, outside of which pus had collected to the amount of nearly two ounces.¹

CASE XXII. Pyonephrosis — Nephrotomy — Recovery.—Emma T., aged forty years, suffered some months from indefinite dragging pains, followed by a sudden attack of severe lumbar pain in the right side. After this attack a tumor was for the first time observed, and the patient entered the hospital. In the right lower quadrant of the abdominal cavity could be detected a tumor the size of a child's head, not moving on respiration, and nearer than usual to the median line. The urine was of neutral reaction, had a mucus sediment, a specific gravity of 1014, and contained a trace of albumin. There were a few leucocytes and epithelial cells in the sediment. Owing to some doubt as to the origin of the tu-

mor, on October 4, 1896, a small exploratory incision was made and showed it to be a greatly dilated kidney. The abdominal wound was closed, and the usual curved incision made in the loin. The sides of the wound were smeared with Whitehead's solution of tincture of benzoin and iodoform, and the kidney incised. About three pints of pus escaped. A probe was passed eighteen inches down the ureter, but it could not be detected in the bladder. There was no evidence of stone. The kidney was drained by means of iodoform gauze and two rubber tubes, and the wound partially sutured.

Recovery from the operation ensued. The wound discharged much pus and was dressed daily. Within fifteen days one tube was removed, and the other within about four weeks. Within eight weeks the lumbar wound had entirely healed, and the patient went home. For a time after the operation the urine was free from pus and albumin; but within a month, when the discharge from the loin had greatly diminished, there was a daily passage of forty-two to fifty-two ounces of urine containing a trace of albumin and having a mucopurulent sediment of from one to two ounces. In December, 1897, the patient was in excellent health, suffering no pain on the affected side, and urinating clear urine four or five times daily. There was no enlargement of the kidney to be felt, and no weakness of the cicatrix.

HYDRONEPHROSIS.

In the days of the Lister spray, now nearly forgotten, though less than twenty years have passed, a patient (Case XXIII.) came to me complaining of a lumbar swelling which proved, upon aspiration, to be a hydronephrosis. This puncture was followed by an incision and drainage, and after several superficial abscesses had been opened in the cicatrix the patient recovered. The case has been already reported,¹ but it is here again epitomized, not only for the sake of completing the record, but also for its historic interest, since, somewhat to my surprise, it has been recorded by Brodeur² as the first operation ever resorted to for a hydronephrosis. Two other cases, in each of which the tumor was of large size, are also in our list, one of which was before the date of Fenger's suggestion to save the kidney, if possible, by anastomosing the ureter below the stenosis to the renal pelvis above. The second one, however, in my judgment, promised so little, that extirpation was resorted to. Indeed, I do not think when such a thinned and interstitially changed renal substance is met with, as in a large hydronephrosis, any benefit can be obtained by conservative means. With hydronephrosis confined to the pelvis or only moderately involving the kidney tissue anastomotic procedures come properly into use.

CASE XXIII. Hydronephrosis — Nephrotomy — Recovery.—John W., aged twenty-one years. Soon after an attack of vague abdominal pain he noticed a slight swelling in the left iliac region, and when he entered New York Hospital, November 1, 1878, the tumefaction extended well up the side and downward to the ilium. Two ounces of limpid fluid, of a specific gravity of 1012, was withdrawn. No urea nor echinococci hooklets were found in it. A second tapping, withdrawing twelve ounces of fluid, resulted in similar findings.

As the tumor increased to a considerable size, an

¹ There has been omitted from the above list of kidney lacerations one which occurred in a girl aged eleven years, who fell twenty feet, striking the left side on a bar. Laparotomy was resorted to twenty hours later, as her general condition warranted interference for the supposed displaced intestine. Much blood was found in the peritoneal cavity, and the kidney was found to be displaced downward with its hilus and ureter torn across, the artery remaining intact, forming a huge hematoma. This organ was removed, but the bleeding still continued. A further search revealed that the blood came from a badly torn spleen. The damage necessitated the removal of this gland. Temporary improvement with death at the end of nine hours was the result.

¹ Weir, *Med. Record*, March 13, 1880.

² Brodeur, "De l'Intervention Chirurgicale Dans Les Affections Du Rein, 1886."

incision was made, December 20, 1878, in the loin, as for lumbar colotomy, and a dilated kidney exposed. This was punctured to the depth of one-quarter of an inch, and two pints of a semi-transparent fluid freely escaped. A drainage-tube was inserted, the outer end of which communicated with a rubber bag filled with carbolized sponges, covered with carbolized jute. The operation was made under carbolic spray. The following day the ureter was explored by my flexible metallic probe, used then for the first time, to a depth of nine inches from the surface wound, but no calculus was found. During April, 1879, the drainage-tube was removed, and the wound was allowed to close. Four times an abscess formed in the scar, and was lanced. After that recovery was complete. There were no symptoms referable to the urinary tract, and no tumor could be felt. All attempts to learn the subsequent history of this patient have failed.

CASE XXIV. Hydronephrosis — Nephrectomy — Recovery.—Joseph G., aged fifteen years, presented the following history: For a long time he had noticed that his abdomen was growing larger, particularly on the right side, but there was no pain, and no urinary symptoms. There had been increasing loss of flesh and strength, but no history of colic or ureteral obstruction. March 7, 1891, two months before his entrance to New York Hospital, the greatly dilated hydronephrotic sac had been incised in the lumbar region by my colleague, Dr. W. T. Bull, and several pints of a clear fluid evacuated. The urine before the nephrotomy had been pale, alkaline, of a specific gravity of 1013, and with a faint trace of albumin, but no sediment. The hydronephrotic fluid was of a specific gravity of 1009, and contained about one-half the amount of urea contained in normal urine.

The sinus persisted, discharging freely, and led to a cavity capable of holding $1\frac{1}{2}$ pints of fluid, and on May 9, 1891, the sinus was enlarged above and below to a width of four-fifths of an inch, and its cavity exposed. It was found to consist of a thin-walled sac, with occasional traces of kidney tissue, reaching from the iliac fossa to the diaphragm. It was dissected out, its vessels and ureter, the last being an obliterated cord for more than two inches, separately tied, and the organ removed. The patient made a good recovery. At first, the quantity of urine voided from the bladder was below the normal, as it had been before this second operation, but soon it increased in amount from thirty-six to forty-five ounces daily. It contained a few casts for some days.

The patient gained flesh and strength, and left the hospital three weeks after the nephrectomy in good condition with the wound completely closed. He was seen during December, 1897, in good health. The scar was double, the straight one being along the quadratus lumborum muscle, and the oblique one parallel to the twelfth rib and about five inches long. Between the anterior end of this and the rib, on coughing and expulsive effort, a decided hernial bulging could be observed. However, no muscular weakness could be felt on that side.

CASE XXV. Hydronephrosis — Nephrectomy — Recovery.—Miss B., aged twenty-two years, a patient of Dr. A. Cushman, noticed, four years before operation, a swelling in the right lumbar region. This increased with, and was accompanied by, a dragging sensation in the back, and occasional attacks of sharp pain, but no urinary symptoms. Upon entrance to the hospital, the temperature was 99.8° F.; respiration, 22, and pulse, 80. The urine had a specific gravity of 1023. It was acid, without albumin or sugar, and its sediment presented nothing abnormal. The swelling in the lumbar region was the size of a cocoanut.

October 19, 1896, the tumor was exposed by a cres-

centic incision. It proved to be a large hydronephrotic cyst of the kidney. With a trocar and canula about twenty ounces of clear urinous fluid was withdrawn, and the cyst was opened. A long flexible probe inserted into the ureter, down to brim of the pelvis, detected no stricture, nor was the cause of the hydronephrosis discovered. Some difficulty was encountered in passing the probe, but much help was given by turning the dilated kidney inside out until the pelvis was recognized. As the kidney substance was generally reduced to an extreme thinness, and as it was much degenerated, it was determined to extirpate the organ. It was readily detached from its bed, and after the vessels and ureter were ligated, it was removed. As is my late custom after a nephrectomy, the cavity of the wound was lined with a Mikulicz "bag," or layer of iodoform gauze, six-tenths per cent., and inside of this was packed quite forcibly sundry handkerchiefs of sterile gauze, the ends of which emerged from the unsewed portion of the wound. This controls admirably any oozing, and the interior packing is removed at the end of one or two days, and the iodoform gauze a little later. The patient made a good recovery, except for a moderate sero-hemorrhagic discharge into the dressings, which occurred within the first twenty-four hours and persisted as a bloody grumous discharge for ten days. There was at first a very small amount of urine passed, but this reached thirty-eight ounces on the third day, and was nearly normal in character, having only a slight trace of albumin, which later disappeared.

The examination of the excised kidney showed it to be greatly distended and hydronephrotic, and to be made up of several cysts. The kidney tissue left was slight in amount and showed to a marked degree, on microscopic examination, chronic inflammatory changes. The ligature remained attached for seven weeks, and was only removed by means of my rubber-ball tractor,¹ which need not be described as it has been superseded by the better methods of Cleveland and Grad, to be referred to later. The patient was heard from fifteen months afterward, and she had gained in strength and was in good condition.

(To be continued.)

THERAPEUTIC NOTES.

Treatment of Metrorrhagia.—CONNERY (*Intercollegiate Med. Jour.*, December, 1897) speaks of the importance of an exact knowledge of the cause of metrorrhagia before treatment is attempted. He calls attention to the fact that cardiac, hepatic, or renal diseases have frequently produced metrorrhagia, although uterine disorder has been absent or slight. In such cases diaphoretic remedies should be given, according to the condition of the patient. Reliable remedies for checking hemorrhage are few. *Hydrastis Canadensis* is of value in many cases, and is too little known. Quinin and strychnin administered alone or in combination will often arrest hemorrhage in cases associated with debility. Absolute rest in a horizontal position and vaginal douches with the water at a temperature of 110° to 115° F., will often suffice to control hemorrhage. If in spite of treatment the bleeding continues without assignable cause, the cavity of the uterus should be explored; for a bleeding polyp or submucous fibroid has been known to produce death by loss of blood, although in itself it may be a comparatively trivial affair.

¹ Weir, *MED. NEWS*, April 3, 1897.

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SATURDAY, JANUARY 29, 1898.

PHILADELPHIA'S TYPHOID-FEVER EPIDEMIC; WHERE DOES THE RESPONSIBILITY LIE?

PHILADELPHIA, at the present moment, furnishes the unfortunate spectacle of a community of considerably more than one million souls needlessly plunged into a rapidly spreading and thus far unchecked epidemic of enteric fever, and absolutely helpless to rid herself of the pest because of the refusal of her city legislators to cooperate with the health authorities, and to provide a water-supply which may be used with safety. For months, yes, for years, Common and Select Councils, the governing bodies of that city, have been importuned to pass an ordinance for the establishment of a filtration-plant. The long-standing high mortality in Philadelphia from typhoid fever should have resulted years ago in the erection of filtering-stations and adequate storage-basins for the improvement of the water-supply, but the members of Councils, true to their traditions as professional politicians, have steadfastly declined to provide these safeguards to the health of citizens whose interests they are popularly supposed to represent—failed to provide the safeguard simply and solely because they were unable to effect

among themselves, in taking such a step, a sufficiently remunerative plan for the division of the spoils attending the undertaking; for is not such remuneration, after all, the actual *raison d'être* of the vast majority of city law-makers of this brand? Thus it is that through the criminal neglect of this group of spoilsmen the present epidemic of enteric fever, for an epidemic it certainly is, has been needlessly inflicted upon our neighbors in Philadelphia, who must suffer physical ills and loss of life, unable to avert the danger by appeals to their representatives in Councils, and chafing under an injustice which carries with it a feeling of personal insult to every self-respecting citizen.

Since the beginning of the present outbreak, the first week of last December, 1134 new cases of enteric fever have been reported in the City of Philadelphia, and of this number 675 have occurred during the first four weeks of the new year, or an average of more than 168 new cases weekly up to the present time. As a striking comparison, we may state that during two weeks of the present month New York City—exclusive of Brooklyn, etc.—with a population twice that of Philadelphia, reported a total of 36 new cases of typhoid, while Philadelphia for the corresponding period, reported no less than 366 new cases! To further the comparison, two wards in the infected district of Philadelphia, having a combined total population of 100,000, in *one* week surpassed the total roll of enteric-fever cases reported among the 2,000,000 inhabitants of New York City for a period of *two* weeks. To make the contrast still plainer, in one recent week in New York City, only six new cases of typhoid were reported from the densely populated tenement districts below Fourteenth street, where the nature of the surroundings and mode of life offer every advantage to the development of filth-diseases. On the other hand, the section of Philadelphia in which typhoid is most prevalent is an area not of crowded tenements and of indifferent hygienic environment, but of separate, small dwellings, occupied, as a rule, each by a single family, and pronounced by the corps of health inspectors, which have just investigated the neighborhood, admirably drained and perfect as to all sanitary appliances.

As to the cause of the epidemic there is no uncertainty. The Schuylkill River, from which the greater

part of Philadelphia's water-supply is derived, is polluted from end to end, and this foul, sewage-laden water is served, unpurified, to the patient taxpayer. Last November an accident occurred by which sewage was pumped directly into a reservoir, and thence into the city water-mains, to the consumer; and this accident seems to have been a principal cause of the present outbreak. It is also known that further up the river typhoid is on the increase, and this adds another factor to the cause of the epidemic. But to enumerate these causes is of no avail. The Schuylkill is polluted, and every one has known the fact for years. Every one also knows that the practical remedy for the situation is either through filtration or an entirely new source of the water-supply. The majority of voters expressed in unmistakable terms their approval of filtration by the creation of a loan-bill last fall which empowered the city to borrow a large sum for general municipal improvements, including the sum of \$3,700,000 for the immediate improvement and filtration of the water-supply; and yet, in spite of the fact that money is available for the project, that the people urgently favor it, and that the city health-officers heartily endorse the scheme, Councils persist in ignoring the situation, and criminally delay the appropriation of the money at their disposal to provide adequate filtration-plants for the city. Pleas, arguments, and merited censure on the part of the citizens at large, the daily press, and the medical profession, have failed to convince this body of its imperative duty, and the members continue to snap their thumbs at measures of public safety by suggesting that an appeal be made to the Government for aid in dealing with the epidemic, instead of acting without hesitancy in accord with the demands made upon them from every side. They richly deserve for their utter incompetency in all legislation save that pertaining to their individual enrichment, the desecration which is heaped upon them by the entire community.

THE BROOKLYN WATER-SUPPLY LABORATORY ABOLISHED.

WE regret to notice that the Rockville Center Research-Depot has been abolished by the Board of Health. It was established a little over a year ago, with infinite pains, by the then Commissioner of Health for Brooklyn, Dr. Emery, and was doing good

work for the protection of the water-supply at a comparatively slight outlay of public money. It was the contention of Dr. Emery that the proper location for an institution of this nature is upon the watershed itself and that the chemic and bacteriologic researches should be accompanied by frequent inspections of all suspected feeders and ponds. The investigations have been conducted by Dr. H. Hill, formerly in the employ of the Louisville Water-Supply Commission, an expert in bacteriology, assisted by Dr. Ellms, chemist. Dr. Ezra H. Wilson, who recently resigned from the Health Department to give his sole attention to the work of the Hoagland Laboratory, was for a time in charge of the Rockville biologic work, but latterly was appointed to the honorary position of consulting bacteriologist. The names of these three officials are signed to an important report of two hundred pages setting forth the organization and results of the laboratory. This report is replete with tabular and other technical matters, and will be especially valuable to water-biologists and engineers; it may without exaggeration be characterized as a "State paper" of permanent value. As the new charter of New York City places the sanitary supervision of the water-supplies in the Board of Health, it is to be hoped, that this important function will not be slighted. It is beyond doubt a mistaken policy to neglect this line of sanitary work until the water becomes suspected or polluted, and popular panic and outcry, to say nothing of decimating epidemics, make its resumption necessary. It is true that there is a water laboratory belonging to the Water Bureau of the Borough of Brooklyn, but it is located remote from the water sources, being within the "city limits," near Prospect Park. That kind of a research-department, however, cannot be considered as competent to "fill the bill," and furthermore its position as an appendage to the Water Bureau—where quantity rather than quality is ever the criterion—is unfortunate from the sanitary standpoint. It is a relic of antiquated methods which does not inspire confidence.

—HOW TO ELEVATE THE PROFESSION IN THE COUNTRY.—

WHILE the city physician is disturbed by the dispensary abuse, which threatens to take away his livelihood, his country brother is menaced, accord-

ing to a writer in the *Charlotte Medical Journal*, by a still more dreadful fate—self-extermination. This writer speaks especially of North Georgia and East Tennessee, where the customary fee for obstetric cases is \$5, and other charges in about the same proportion. It is justly maintained that the larger the territory in which a man practises, the more difficult it is for him to keep up with his profession, and the writer tells us that we ought to express neither surprise nor resentment when we learn that one of his colleagues (a "Doc," as he calls him) attempted to perform craniotomy with his pocket-knife and a pair of rusty scissors. By and by Nature delivered the woman and the baby lived for a week before yielding to the effects of craniotomy.

One cannot help sympathizing with a writer who says: "I don't see how a physician can wait on a case of obstetrics aseptically and antiseptically, and keep his eyes on the case till all danger of septicemia is past for \$5, the case being anywhere from two to eight miles from his office."

But even this sad condition has its remedy, and when the doctor returns with (out?) his V., he writes: "I believe that if the Legislature would pass a law making it a penitentiary offence for a physician to wait on a case of obstetrics for less than \$10, in the country, they would do more to benefit humanity and to evolve the world toward what God intends it shall be than was ever done before at a single stroke."

ECHOES AND NEWS.

Mothers' and Babies' Hospital of New York.—It is reported that this vigorous young infant has secured a lease of the building owned by Dr. T. Gaillard Thomas and recently occupied by him as a private sanitarium.

Smallpox in the United States.—The Marine Hospital Service reports the existence of an epidemic of smallpox at Birmingham, Ala. One hundred and thirty-one patients with this disease are now under treatment at that place.

Damages for a Druggist's Mistake.—The Supreme Court of Brooklyn, N. Y., recently awarded a verdict of \$5000 to a widow for the accidental poisoning of her husband by a druggist who sold oxalic acid for Carlsbad salts.

Sudden Death of a Physician.—The death by shooting of Dr. Charles B. Day of Glencoe, Minn., is reported by telegram. He was an alumnus, of the class of 1889, of the College of Physicians and Surgeons of New York.

A Brooklyn Appointment.—Dr. John Griffin has been appointed to a commissionership in the Brooklyn Depart-

ment of Public Instruction, a position formerly held by him for many years. Dr. Griffin was for a period of four years the health-officer of that city.

The Meeting of the State Society.—The recent meeting of the State Society at Albany was marked by a large attendance, and the members evinced great interest in proposed medical laws, the Dispensary Bill coming in for a large share of their attention.

The Obstetrical Society of Cincinnati.—At a recent meeting of this society the following officers were elected: President, Dr. E. S. McKee; vice-president, Dr. W. D. Porter; recording secretary, Dr. Wm. Gillespie; corresponding secretary, Dr. M. A. Tate; treasurer, Dr. George E. Jones; librarian, Dr. Bonfield.

A Celestial Remedy.—A "hedge doctor," a kind of quack in Ireland, was being examined at an inquest on his treatment of a patient who had died. "I gave him ipecacuanha," he said. "You might just as well have given him the Aurora Borealis," said the coroner. "Indade, yer honor, and that's just what I should have given him next, if he hadn't died."

A Free Supply of Diphtheria Antitoxin for the Sick Poor of London.—The London Metropolitan Asylums Board has resolved that a supply of antitoxin shall be placed in the hands of the medical officer of health under its control for free distribution to any general practitioner who may be called upon to attend and treat patients unable to obtain admission into the board's hospitals. The board has made arrangements for a supply of antitoxic serum from the laboratories of the Royal College of Physicians and Surgeons.

Cure for Hog Cholera.—The Chief of the Bureau of Animal Industry, Dr. D. E. Salmon, has submitted his report upon the experiments made in the treatment of hog cholera with antitoxic serum. The report shows the most encouraging results. The cost of the serum is only 10 cents per head for animals treated, and inasmuch as the losses from hog cholera are enormous it is proposed to ask Congress to appropriate funds to enable the department to furnish 2,000,000 doses of the serum during the coming year.

Resolutions upon the Death of Dr. O'Dwyer.—Resolutions upon the death of Dr. O'Dwyer have been placed upon the minutes of all the various institutions with which he was connected. Copies of these tributes have been received for publication by the MEDICAL NEWS. They are so similar in their character that their publication hardly seems necessary. The glowing tribute published in the MEDICAL NEWS of last week, together with the announcement of the resolutions above referred to, afford becoming recognition of the loss sustained by the profession in the death of Dr. O'Dwyer.

Quinin in India.—Brigade Surgeon Lieutenant-Colonel George King, of the Indian Army, has gained his reputation as Superintendent of the Royal Botanic Gardens at Calcutta, particularly in connection with the practical cul-

tivation of quinin. The British Government formerly imported yearly \$250,000 worth of quinin until, after many experiments, Dr. King succeeded in the cultivation of the cinchona tree. There are now 4,000,000 trees in Bengal and every rural post-office in India sells a five-grain packet of the drug for half a cent, while the government makes about \$3500 a year out of the profits.

Christian Science.—A "practitioner" of Christian Science of Kansas City, has recently been fined for not reporting a case of diphtheria to the Board of Health of that place. After a course of "Christian Science" the little patient having the disease died. The judge, before whom the case was tried, is reported to have said that "the methods of Christian Science in attempting to heal are frequently akin to murder." He might have gone a bit farther and said: "are murder," and then not have been very wide of the mark. The question is, how long will a civilized community tolerate this variety of baneful charlatanry?

Deaths after Christenings and Funerals in Winter.—At a recent London coroner's inquest the fact was brought out that in two cases children had died from pneumonia after having been taken to church to be christened. The coroner said he was in the habit of warning parents that all very young children should be most carefully wrapped up when they are taken out of the house, in winter weather, for any such purpose. Then, again, winter funerals are not without their dangers, as is pointed out by one of our contemporaries in the following paragraph: "Do not take off your hat at a funeral in winter when standing by the grave." At the funeral of Sir Frank Lockwood, M. P., a few weeks ago, another influential member of the Liberal Party, Mr. Charles Harrison, took cold and died within two days.

France Encourages Paternity.—The National Society for the Increase of the Population of France has just held an extraordinary meeting under the presidency of M. Jacques Bertillon. A resolution, adopted unanimously, was to the effect that as forty-seven of the General Councils of France had approved the program of the society, all electors at the coming general elections in the spring of 1898, and especially those who are the fathers of families, should be invited to demand of their candidates, to whatever political party they might belong, to inscribe in their program: (1) A reduction of taxation in proportion to the number of children; (2) the application of the same principle in all financial laws and in the succession duties; (3) the favoring by the State of large families from an administrative and military point of view.

Ambulance System in Jeopardy.—The ambulance system of the Borough of Brooklyn is in a position of uncertainty regarding its supply of the sinews of war. It is understood that the new charter of our greater city makes no provision for the appropriation that was for many years granted by the Board of Estimate. At seven of the hospitals ambulance stations are maintained at considerable cost, for the support of which the authorities have been in the habit of granting \$1200 per annum. New legislation

will probably be necessary to make it possible for this aid to be continued. The so-called city ambulances, three in number, were maintained by the health-officer at an annual cost of about \$8000, inclusive of supplies. If the first interpretation of the new charter is correct there are no funds available for, or convertible to, the support of this branch of the public service.

Death-Rate of the Spanish Army in Cuba.—Inspector-General Losada, of the Spanish forces in Cuba, issued his official report about the middle of last month in which is indicated losses almost without precedent in modern times. His report shows that out of the 200,000 soldiers sent by Spain to put down the insurrection in the island from the beginning of February, 1895, to the beginning of December of the year just terminated, not more than 53,000 (a little over one-fourth) are at this moment fit for active service. The 147,000 are either dead or sent back to the motherland ill or wounded. The causes of this unprecedented death-rate and sick-list are (besides casualties in action) mainly three: (1) the inappropriateness of the clothing furnished to the European troops; (2) fatigue; and (3) lack of food. "The report, which does not apparently err on the score of reticence, paints a lurid picture of military service in the chief Spanish colony. Under successive generals the three-years' campaign, in spite of numberless Royalist 'victories,' leaves Cuba as precarious a Spanish possession as ever; while a whole generation must intervene before island and motherland alike can recover from the loss of blood, property, and treasures.

Yellow Fever and the Philadelphia Local Quarantine.—It was recently and quite confidently reported in the lay press of Philadelphia that yellow fever had succeeded in passing the Government Quarantine-Station at Reedy Island (see "Our Philadelphia Letter" of this week), in consequence of which the competency of the Marine Hospital Service to properly guard the City of Philadelphia from imported infections has been seriously questioned. That the report in question is fallacious we confidently believe, and not without good ground, as the following statement from Surgeon-General Wyman of the Marine Hospital Service will prove: "The Government Quarantine-Station at Reedy Island is located near the middle of the Delaware River. Occasionally the ice is so thick that it is impossible to board incoming vessels at this point, and at such times a medical officer is sent to board vessels in the harbor near Philadelphia from the revenue cutter. The local quarantine-station is situated at Marcus Hook some miles above the Reedy Island station. On January 19th the schooner 'Tingue' entered the harbor and was stopped at Marcus Hook, and it was stated by the Philadelphia papers that this vessel had cases of yellow fever on board. A medical officer of the Marine Hospital Service, an expert on yellow fever, was at once sent to make an investigation, and reported that 'the cases are not yellow fever.' Furthermore, the 'Tingue' would have been inspected by a national officer before being allowed to enter the port." Signed, W. WYMAN, Surgeon-General, Marine Hospital Service.

CORRESPONDENCE.

OUR PHILADELPHIA LETTER.

[From our Special Correspondent.]

A SENSATION IN QUARANTINE CIRCLES—ERADICATION OF BOVINE TUBERCULOSIS—CHARITY FOR WIDOWS AND CHILDREN OF DECEASED PHYSICIANS—PROFESSIONAL POLITICS AND THE HEALTH-OFFICER OF PHILADELPHIA—CONTROL OF THE EPIDEMIC OF ENTERIC FEVER—MENTAL CONDITION OF A YOUTHFUL MURDERER—DR. PEPPER'S ILLNESS—CÆSARIAN SECTION—CONGENITAL MALFORMATION OF GENITALIA—FIBROID TUMORS—TYPHOID FEVER ON THE INCREASE.

PHILADELPHIA, January 22, 1898.

QUITE a sensation in local quarantine circles was caused a few days ago by the arrival in the Delaware River of a vessel from a West Indian port with, it was said, yellow-fever cases aboard. Official reticence masks the true nature of the infection, but the general trend of public opinion stamps the infection yellow fever, particularly because of the fact that this disease is just at present epidemic at Jamaica, from which island the vessel hails. Yellow fever or not, the ease with which the ship managed to pass the lower river quarantine-stations to be finally held up by the State inspectors of vessels at a point just below the city has called down some caustic criticism upon the present régime at the Marine Hospital Quarantine Station in Delaware Bay, through whose fingers the fever ship slipped with so little effort. The incident illustrates, too, the fact that Philadelphia is none too well protected from the ravages of imported epidemics, and that our triple quarantine system is none too elaborate if the health of the city is to be maintained. [See "Echoes and News," page 150, for reply of the Marine Hospital Service.—ED.]

The report to the Department of Agriculture on the work carried on by Dr. Leonard Pearson, the State Veterinarian, and his associates, in eradicating bovine tuberculosis and other contagious diseases of animals, shows that during 1897, 16,000 animals were subjected to the tuberculin test, with the result that 2500 were condemned as tuberculous and killed. The same report also shows that equally important work has been done by these officials in dealing with the recent local outbreak of anthrax in the western part of the State, and that thorough investigations have been pursued for the purpose of eradicating rabies, hog cholera, and other animal infections.

At a meeting to be held on January 26th, at the College of Physicians, the members of the Mutual Aid Association of the Philadelphia County Medical Society hope to arouse a more general interest among both the medical profession and the laity in the efforts being made by the association in extending the hand of charity to the indigent widows and families of deceased physicians. At this meeting Dr. Charles A. Leale, President of the New York Society for the Relief of Widows and Orphans of Medical Men, will give an account of the work pursued by that body; Dr. A. F. Currier of New York will deliver an address on "The Fifty-five Years of the New York Society for the Relief of Widows and Orphans of

Medical Men." Other prominent speakers of the evening will be the Rev. Dr. Charles Wood, the Rev. Dr. Joseph Krauskopf, and Drs. Edward Jackson, Charles Hermon Thomas, and John B. Roberts. At the close of the meeting a reception will be tendered the invited guests by the Association, at the University Club.

At a business meeting of the Philadelphia County Medical Society, held January 19th, the following important resolution, *apropos of the fight now being made to divorce from professional politics the position of Health-Officer of Philadelphia*, was adopted: "Resolved, That the Philadelphia County Medical Society believes that the best interests of the City of Philadelphia and of the State of Pennsylvania will be conserved by the appointment of an educated physician as Health-Officer. Resolved, That the secretary forward to the Governor of Pennsylvania a copy of this resolution, with the request that he give thoughtful consideration to the opinion of the society thus formally expressed." Regarding the necessity for taking immediate steps to control the widespread epidemic of enteric fever now prevailing in this city, the society "Resolved, That a committee be appointed to wait upon the mayor and councils and urge the necessity of immediate steps for the filtration of the water-supply of the city, in view of its responsibility for the prevalence of typhoid fever in the city." The society then took up the question of the publication in a medical periodical of its proceedings, and it was voted to enter into a contract for the present year with *The Philadelphia Polyclinic* by which this journal, on mutually advantageous terms, is to undertake the publication in its columns of the proceedings of the society, at regular intervals. The contract of a similar nature heretofore existing with *The Medical and Surgical Reporter* was abrogated. The following officers for the ensuing year were elected: President, Dr. Edward Jackson; first vice-president, Dr. S. Solis-Cohen; second vice-president, Dr. John H. Musser; secretary, Dr. John Lindsay; assistant secretary, Dr. Elwood R. Kirby; treasurer, Dr. Collier L. Bower; censor, Dr. William M. Welch. Six new members were elected, and the names of thirty-seven candidates for membership were reported favorably by the Censors.

Drs. Thomas J. Morton and John B. Chapin, the well-known alienists, have been appointed by the Court to examine into the mental condition of Samuel Henderson, the fifteen-year-old murderer, the revolting details of whose crime has already been given wide publicity by the daily press. The inquiry into the matter is to begin at once, and it is thought that the expert report rendered will largely influence the course to be taken by the authorities when the case comes to trial.

DR. WILLIAM PEPPER, who has lately been confined to his house with an attack of la grippe, has so far convalesced that he is able to undertake a journey to the South where he expects to fully recuperate. During his absence Dr. Alfred Stengel is filling the Chair of Practice of Medicine in the University of Pennsylvania.

The condition of Dr. Theophilus Parvin is so serious that grave doubts of his recovery are expressed. It is said that recent vesical complications and pulmonary

edema have supervened to complicate the renal lesions from which he suffers. The lectures on obstetrics at the Jefferson Medical College are being delivered by Dr. Edward P. Davis, during Dr. Parvin's absence.

The appointment of Dr. W. E. Robertson as demonstrator of bacteriology in the Medico-Chirurgical College is announced.

Commencing with the current number the *International Medical Magazine* is to be published under a new management. The editorship of this journal, formerly under the charge of Dr. Henry W. Cattell, has been assumed by Dr. Walter L. Pyle. It is understood that the general plan and scope of the *International* will remain unchanged.

At the last stated meeting of the Section on Gynecology of the College of Physicians of Philadelphia, held January 20th, Dr. G. M. Boyd read a paper on *Cesarian section a second time, because of contracted pelvis—Cesarian section, because of coxalgic pelvis*. Dr. J. M. Baldy presented a communication on *congenital malformation of genitalia*, and described a case in which absence of uterus and adnexa were associated with a rudimentary vagina, in a young woman, otherwise perfectly developed, and who had never menstruated; the speaker also made some remarks on *fibroid tumors*, and exhibited specimens of such growths. Dr. J. B. Shober reported a *double celiotomy for appendicitis and retroversion of the uterus*, in which he first did an operation for the excision of a diseased vermiform appendix, and then an abdominal section in the median line to correct a retroverted uterus by the method of ventral suspension; the patient made a good recovery, although for a time obstinate and serious intestinal paresis was present.

Despite the efforts of the Board of Health and despite the fact that the general sanitary condition of the city is reported good, *typhoid fever is on the increase in the infected districts*, and has begun to spread more generally through other parts of the city. It is conceded by all that the cause of the epidemic is the pollution of the water-supply. The new cases of typhoid for the week ending January 22d, numbered 212, as against 201 for the preceding week. The deaths from this cause reached a total of 23 cases, or 6 more than reported last week. There were 119 new cases of diphtheria reported, or 23 more than last week, with 20 deaths; and 62 new cases of scarlet fever, exactly the same number that occurred last week, with 2 deaths. Of the 461 deaths from all causes during the past week 147 were of children under five years of age.

OUR BERLIN LETTER.

[From our Special Correspondent.]

GERMAN MEDICAL OPINIONS ON RÖTHELN—THE PRESENT STATE OF CLINICAL HEMOGLOBINOMETRY—PROFESSOR GERHARDT ON THE GRUBER-WIDAL-SERUM REACTION IN TYPHOID—PROFESSOR SALKOWSKI AND THE XANTHIN BODIES IN THE URINE.

BERLIN, January 20, 1898.

GERMAN measles, "*Rötheln*," occurs just often enough in America to make opinions as to its etiology and

contagiousness interesting. Some recent opinions on the matter from Dr. Blaschko, whose opportunities for observations of the disease have been excellent, appeared in the last number of the *Therapeutische Monatshefte*, and his opinion seems to be more or less that of the profession here generally. Rötheln is not considered to be an independent disease with a specific etiology of its own, though this is not a universal opinion. The bacterial cause of measles is, of course, not as yet known, but it is considered that when it is discovered it will be found that rötheln is caused by a degenerate form of the bacterial cause of measles. As to contagiousness, Dr. Blaschko does not consider that the liability to contagion, even for the immediate members of the family, is sufficient to require isolation of the patient. He considers that other children of the family may be allowed to continue attendance at school without endangering their fellow pupils. Epidemics of rötheln spread in this way, it would seem, have not been observed in Germany.

As to treatment, all the indications are met by a bland diet, rest in bed during three to four days, and a weeks' confinement to the house. After two weeks the patients may resume attendance at school. Complications, Dr. Blaschko has never seen, and when they are reported to have occurred he believes that the cases were not really what should be called rötheln, but rather genuine measles, or at times scarlet fever.

The present position of the clinical pathology of the blood is strikingly unsettled, or at least would appear so from the rather varied and generally unsatisfactory positions taken by prominent clinicians. Grawitz is giving a course of lectures on blood pathology from the clinician's standpoint, which represent, I suppose, some of the best and most advanced scientific thought of the day on the subject. He never talks of the estimation of hemoglobin by any of the old methods. Notwithstanding all the ingenuity spent on supposed instruments of precision, and recent supposed important modifications of them, one never hears of either the instrument of Fleischl or Gowers, but always of the dried substance of the blood, *i.e.*, of the weight of the residue remaining after evaporation.

The use of this method shows at least one thing very clearly: that the blood plasma undergoes much greater change during the course of certain blood diseases than has usually been thought to be true. In chlorosis, for instance, the ratio of watery constituents in the cells and in the plasma of the blood does not always show coincident changes from the normal. Usually the amount of watery constituents of the cells is proportionately much greater in chlorotic conditions than that in the plasma. This holds true, as a rule too, for pernicious anemia, but there are cases of both affections in which the plasma shares in the hydremic change, and these cases are of especially bad prognosis. It seems probable that the near future will see certain changes in the ordinarily accepted division of blood diseases as at present taught, the modifications being founded on the important changes in the plasma which are not yet systematized.

Professor Gerhardt, in talking of the estimation of hemoglobin, recently said that so much discredit had been

thrown on ordinary methods of estimation that the practitioner scarcely knew what to adopt. He suggested that the simple test of Professor Martins is probably as good as any until the clinical-blood pathologists have settled among themselves whether instrumental color hemoglobinometry, the weighing of the dried substance of the blood, or the estimation of the specific gravity of the blood, is to be regarded as the best test of its hemoglobin contents.

Professor Martins places a drop of blood from the patient upon a handkerchief, and beside it, a drop of normal blood. A little experience enables one to judge with sufficient exactness for all clinical purposes how much the hemoglobin is reduced in the pathologic specimen. A series of specimens may be kept for some time for comparison, and the degree of improvement in the chlorotic condition fairly judged.

Professor Gerhardt's opinion, by the way, of what is called very generally here in Germany the *Gruber-Widal reaction in typhoid fever*, does not concede to it much practical value for the practitioner. The precise precautions necessary for its proper use, the fresh typhoid culture, the careful exact dilution, he thinks almost impracticable for general employment. Then, in many cases, the patient's history cannot be obtained with sufficient exactness to be absolutely sure about preceding attacks of typhoid, and besides the possibility of a second attack cannot be excluded in such cases. In certain cases even normal serum gives the reaction, while in certain others the reaction does not occur at a period sufficiently early in the disease to make it of diagnostic value.

On the whole, while its positive presence is not always conclusive, a negative reaction is not absolutely exclusive for typhoid. It is only in certain crucial cases that such a diagnostic aid is required, but in these cases surrounding circumstances are, as a rule, so dubiously significant that it is only an absolutely pathognomonic sign that is of practical value. As it is, the Gruber-Widal reaction gives no more assurance for the diagnosis than does the Diazo reaction, and that, after a period of enthusiastic popularity, has sunk into almost complete desuetude. What Professor Potain called some time ago the diagnostic problem of the end of the century—a means of diagnosing with certainty doubtful cases of typhoid fever still remains to be solved.

It has been known for some time that Professor Salkowski, in the chemical laboratory of the Pathological Institute, was at work on tests for the exact determination and the significance of the xanthin bodies in the urine. Since Horbaczewski's ground-breaking work with regard to the fate of the metabolic products of the cell-nuclei, especially of the nuclei of the leucocytes, the subject of the xanthin bodies has attracted a good deal of attention. The demonstration that uric acid and the xanthin bases are the end-products, not of systemic nutritional metabolism, but of tissue metabolism, especially of the leucocytes, was one of the most important steps of late years toward the solution of the mysterious processes of vital chemistry.

According to Horbaczewski, there is a complete parallelism between the number of leucocytes and the amount of

uric acid and xanthin bases excreted in the urine. Not long ago the whole field of physiologic and pathologic leucocytosis lay temptingly open, and soon a number of articles appeared on this subject. Most of them were not encouragingly scientific, and some were neither consistent with themselves nor with others along the same line. Something of the fault lay with the present tests for the xanthin bodies in the urine, and the inadequate means of separating them with certainty from uric acid and its derivatives, so that further work from a practical scientific chemist was eagerly anticipated.

Meanwhile, Neusser's description of the perinuclear basophilic granulations of leucocytes—the little bodies surrounding the nucleus which stained with triple stain are of a blackish blue—added to the interest of the question of nuclear metabolism, while diverting it to another phase of the process. These little bodies, evidently products of nuclear metabolism, some one of the steps perhaps of the oxidation processes which are known to connect nuclein with uric acid, might give important data for the solution of the questions at issue. Then Kolisch, working in Neusser's clinic in Vienna, claimed to have found a constant relation between these perinuclear basophilic granulations and the xanthin bodies in the urine. He even considered that the so-called uric-acid diatheses are not due to uric acid, or at least are not connected with variations of excretion of uric acid in the urine, but with the amount of the xanthin bodies. Gout, in other words, is not a manifestation of a uric-acid diathesis, but, so to speak, of a xanthin base diathesis. This part of his work has not only not been confirmed, but would seem to be thoroughly disproved. The interest in the xanthin bodies remained, however. Professor Salkowski's article in a recent number of *Pflüger's Archives for Physiology* will be eagerly welcomed. His silver method of precipitating the xanthin bodies and of separating them completely from uric acid would seem to fill the long felt want. While other tests have given extremely large amounts of xanthin as present, and besides, have shown extensive variations in supposedly healthy individuals where no reason could be found for it, this seems to give regular reliable results. The percentage of the xanthin bodies to uric acid present is much smaller than has been given by other workers. On the whole, Professor Salkowski does not think that these bodies deserve as much interest as has been devoted to them, and considers that important conclusions as to nuclear metabolism and the chemic vital processes of nuclear life do not lie hidden in our lack of knowledge of these bodies.

TRANSACTIONS OF FOREIGN SOCIETIES.

Paris.

ADVANTAGES AND DISADVANTAGES OF MASSAGE IN THE TREATMENT OF FRESH FRACTURES—EARLY DIAGNOSIS OF TUBERCULOUS AFFECTIONS OF THE CHEST BY THE AID OF SKIASCOPY—GASTRO-ENTEROSTOMY FOR ULCER OF THE STOMACH—THE HOSPITAL CONTAGION OF TYPHOID FEVER—PROTEOLYTIC POWER OF THE DUODENUM.

LUCAS-CHAMPIONNIERE showed before the Academy of Medicine, December 21, 1897, a young man who had

sustained a comminuted fracture of the lower end of the humerus, the result of a fall. The first four days after the injury the arm was put in a splint; then it was kept in a sling only, and after eighteen days even this was discarded. From the very first day *there was a daily application of massage*, and as soon as the union was sufficiently firm there was also daily passive motion. Recovery was perfect. This surgeon holds to the idea that immobilization, far from favoring the repair of the tissues, as was formerly believed, in reality retards it. SEE stated that massage is useful in the treatment of fractures because it increases the activity of the absorption of the effusion, as union of the bone cannot take place until after this absorption is complete. The same end may be obtained more rapidly, and with less difficulty than by massage, by the application of a rubber bandage. PEAN said that massage ought not to be employed from the first except in those cases of fracture in which there is no displacement of the fragments. In most fractures some immobilizing apparatus is necessary for a time, in order to maintain perfect reduction. It is only after such preliminary treatment that massage is permissible in these cases.

KELSCH spoke of the *early diagnosis of tuberculous affections of the chest by the aid of radioscapy*. His observations were based upon the examination of 124 young patients with various thoracic diseases, thought clinically to be non-tuberculous. The result was negative in 73 instances. In 51 patients the apices of the lungs were found to be less permeable, and transmitted the rays less readily than in the normal, or the glands of the posterior mediastinum, or the pleura, were thickened, and there was partial ankylosis of the diaphragm. As these regions are those in which tuberculous processes begin it is reasonable to suppose that at least in some of these cases tuberculosis existed. This is in accord with the deductions reached through autopsies, *vis.*, that from 20 to 45 per cent. of young subjects present latent tuberculous lesions.

RENAUT illustrated by photographs, December 28th, the ease and certainty with which a differential diagnosis may be made between syringomyelia and rheumatism of the hand when the Röntgen-rays are employed.

WALTHER, RICARD, and KIRMISSON at the session of December 22d, described cases in which large cysts of the neck were removed, expressing the opinion that such cysts are of a venous rather than of a lymphatic origin as is usually supposed to be the case.

TUFFIER announced that he had three times performed *gastro-enterostomy for ulcer of the stomach*. Two of the patients so operated upon recovered. One died from septicemia starting from a gangrenous focus in the liver due to the gastric ulcer, inflammatory changes having glued these two organs together. The reason for operation in this case was uncontrollable hematemesis, as it was in one of the successful cases. In the third case there was thought to be a perforation, but at operation it was found that the symptoms were due to localized peritonitis caused by the ulcer, although the stomach wall had not given way. The good results which follow gastro-enterostomy in such cases are perhaps due to the complete rest given

the stomach, and also to the fact that food is retained in this organ only a short time.

At the session of December 29th, HARTMANN stated that he had once performed gastro-enterostomy for hematemesis. Vomiting of blood ceased, but the patient died several days later. As far as known, this operation has been performed in 12 such cases, the result being 4 recoveries and 8 deaths. This is not very encouraging, and when one considers that immediate death from a large hemorrhage is rare, and that patients often recover when treated by means of decubitus, restricted diet, and ligatures to the limbs, it is doubtful if the operation is one to be recommended.

At the Medical Society of the Hospitals, December 17th, NETTER spoke of the *hospital contagion of typhoid fever*. From 1892 to 1895, 27 cases of typhoid fever developed in the Trousseau Hospital. Twelve of these cases were in nurses, and of these 10 were on the night force. In one case, which recently occurred, the proof was conclusive that the contagion was the result of contact with linen soiled by typhoid dejecta. These cases seem to conclusively prove the contagiousness of typhoid fever, but it does not seem necessary on this account to isolate patients having this disease.

LEMOINE mentioned an instance in which there was only a single typhoid-fever patient in the hospital ward; nevertheless, several patients convalescent from acute articular rheumatism all developed typhoid fever. As these patients made use of the same bed-pan, it seemed probable that the disease was transmitted in this manner. CETTINGER mentioned a similar instance in which transmission of contagion seemed to have occurred from the infected tip of a fountain-syringe used for all the patients. The infection was not necessarily direct through the rectum, but more likely through the soiling of the hands of the attendants with the fecal matter. Several members of the society narrated similar instances.

At a session of the Biological Society, December 18th, PACHON described experiments by which he had proved that the *duodenum possesses a digestive power of its own with respect to albumin*. If thirty cubic centimeters of coagulated egg albumin be introduced into the duodenum of a fasting dog and kept there by means of ligatures, it will be almost completely digested within six hours. If, before it is introduced, the duodenum is roughly handled so that submucous ecchymoses are produced it will not be digested at all. This shows that the digestion cannot be attributed to the pancreatic juice, but is the result of the proteolytic action of the duodenum itself.

Vienna.

BACTERIOLOGIC ORIGIN OF TYMPANITES UTERI—
RESULTS OF OPERATIVE TREATMENT OF LUPUS—
MECHANICAL TREATMENT OF OBESITY—
TEMPORARY UTERINE DISPLACEMENT POSSIBLY DUE TO
MUSCULAR CONTRACTION.

At the Imperial Royal Society of Physicians, December 10th, LINDENTHAL discussed *bacteriologic investigations in tympanites uteri*. This condition was formerly supposed to be due to putrefaction of the embryo. It has, however, been observed while the embryo still

lives, and is at present regarded as of microbic origin. It has been sometimes ascribed to the action of the coli bacillus, although this microbe is not capable of producing gas except in the presence of sugar. In four cases of tympanites of the uterus, Lindenthal demonstrated the presence of different organisms. In every case, however, he found an anaerobic bacillus which was capable of producing gas in large quantities in a short time, and seemed to be related to the bacillus of malignant edema.

At the session of December 17th, LANG pointed out the good results which may be obtained by the operative treatment of lupus. Of thirty-five patients whose histories he followed for several years, twenty-seven were permanently cured. The various methods of covering defects by means of flaps give more permanent results than Thiersch grafts; for, although the immediate results of the latter method are most satisfactory, yet the subsequent shrinkage of the grafts may cause trouble.

At the College of Doctors of Medicine, December 6th, WINTERNITZ spoke of mechanical cures for obesity. Banting's cure consists in an almost exclusively albuminous diet. Ebstein allows a certain amount of fat. These and other similar methods are starvation cures, and it is questionable whether such can be carried out without injury. Thyroid extract reduces the fat by hastening the combustion of the intermediate products of metamorphosis. This would be the ideal treatment if it too were not accompanied by disturbances of the general system. There are, however, purely physical methods for increasing the combustion of fat; one of these is increase of muscular activity. If this is pushed to a degree, the temperature of the body is raised, anemia results, and there is a reduced capability of exertion. This may be avoided by artificially cooling the body before the muscles are called into play. If a patient is treated for several days with cold sponge baths, followed by steam baths, the skin is soon brought into such a condition that this increase of temperature is avoided. Profuse excretion of sweat also assists in reducing the fat. After the steam bath the patient takes a bath in a tub, and then the prescribed walk. Later massage is administered. This series of manipulations may be repeated twice, or in some cases, three times daily. After the steam bath some patients are at once put into a cold tub-bath. By this treatment Winternitz, within a few weeks, can bring about a loss in weight of forty-five pounds without weakening his patient and without altering the diet to any great extent.

At the session of the Medical Club of December 15th, SCHUTZ stated that in certain cases backward displacement of the uterus disappears spontaneously. This suggested the thought that the uterus might be temporarily displaced by spastic contraction of certain muscles. While there is no clinical evidence to sustain this idea it appears that Douglas' pouch is sometimes of such form that muscular contraction would be able to draw the uterus backward.

Camphor as an Antigalactagogue.—HERRGOTT reports a remarkable diminution in the secretion of milk as a result of the employment of camphor internally in 3-grain doses, three times daily for three days.

SOCIETY PROCEEDINGS.

MEDICAL SOCIETY OF THE STATE OF NEW YORK.

Ninety-Second Annual Meeting, Held at Albany, N. Y., January 25, 26, and 27, 1898.

FIRST DAY—JANUARY 25TH.

MORNING SESSION.

THE meeting was called to order by the President, SENECA D. POWELL, M.D., of New York, after which prayer was offered by the Rev. Charles A. Richmond of Albany. The President then delivered his

INAUGURAL ADDRESS,

in which he said in part: In inaugurating your Ninety-second Annual Meeting, it becomes my pleasant duty to report that the affairs of the Society throughout the State are prosperous, and that the same excellent conditions reported by my predecessors continue at the present time. We are united in our brotherhood, contented with our affiliations, honored in our government, and enjoy the blessings of harmony. The only shadow which has fallen upon us is the shadow of death, twelve of our fellow members having died during the past year.

The Merritt A. Cash Prize, as at present applied, is of no advantage to the Society, and some steps should be taken to utilize it in a practical manner.

The work of the State Board of Examiners in controlling the practice of medicine shows that there has been no negligence on its part in endeavoring to maintain the standard of the profession. Of the 862 candidates for license to practise who have been examined, 627 were accepted and 235 rejected, an average of about twenty-two per cent. This would also show that the standard of our medical colleges has been raised. No worthy man is debarred from practice.

The law in regard to the sale of poisons is defective; for not a day passes but the daily papers contain reports of one or more deaths from carbolic-acid poisoning, the drug having been taken by mistake, and suicides by this agent are of frequent occurrence. The Medical Society of the State of New York should see that the people are protected not only from criminal intent, but from the impulse of self-destruction which comes to those so burdened that they know not which way to turn.

I hesitate to recommend any new legislation; for, as a rule, the less governed we are, the better. It is our duty to protect the sick and suffering, rich and poor, not only from the quack and charlatan but from the ill-educated doctor who cares nothing for science and practises medicine with none but pecuniary ends in view.

The annual report of the treasurer was then read. The receipts during the year amounted to \$5558.63; disbursements, \$2680.98; balance on hand, \$2877.65.

The annual report of the Committee on Legislation was also read. The report detailed the work of that committee during the past year, it having chiefly consisted in successfully opposing bills which, becoming laws, would have been harmful to the profession. Among them was

the Optician's Bill, and the attempt of the New York State Medical Association to obtain representation in the State Board of Medical Examiners. The bill exempting from examination practitioners from other States who desire to practise in the State of New York was defeated, as was also the bill providing for a State Veterinarian, thus retaining the examination and sanitary supervision of cattle in the hands of the State Board of Health. The bill abolishing the office of coroner and the Dispensary Bill, in regard to which the committee exerted itself to secure favorable action, failed to become laws. The Midwifery Bill and the bill for the regulation of expert testimony were not presented in time to be acted upon by the last legislature.

The annual report of the State Board of Medical Examiners was then read:

The report of the Regents' Office on this subject as annually presented to the public is a *résumé* of the work of the academic year ending July 31st of each year. The following figures, therefore, unless otherwise stated, bear upon the academic year ending July 31, 1897:

Total number of candidates, 862; accepted, 627; rejected, 27.2 per cent. State Board, 801; accepted, 580; rejected, 27.5 per cent. Homeopathic Board, 47; accepted, 37; rejected, 21.2 per cent. Eclectic Board, 14; accepted, 10; rejected, 28.5 per cent.

Five examinations were held during the academic year, *vis.*: in September, 1896; January, April, May, and June, 1897.

Since September 1, 1891, 37 examinations in all have been held, and from a list of 3290 candidates, 3102 were examined; of these latter 2399 were duly licensed, the total rejections being 703, or 22.68 per cent. The average rejections for the above period were as follows: State Board, 19.3 per cent.; Homeopathic Board, 16.5 per cent.; Eclectic Board, 26.7 per cent.

Most of the rejected candidates have subsequently been reexamined, in some cases repeatedly, as evidenced by the fact that of the 3103 examined only 181, or 7 per cent., have eventually failed to secure a license. Since September 1, 1891, 1192 physicians have applied for endorsement of their credentials under the several exemptions in the law providing for the correction of a legal registration, of which number all but 143, or 12 per cent., furnished satisfactory legal claim to such right. The figures as above given are an indication only as to the results obtained by those who *a priori* were fitted to enter the examinations. This entrance test in itself has been of sufficiently high standard to debar many persons from even being admitted to our examinations. Hence, it will be safe to assume that more than 30 per cent. of those who actually applied and of those who were actually examined were refused even admission to examination for licenses to practice.

The total number of candidates examined during the year who were graduates of New York institutions was 545, and it is a pleasure to again be able to make the statement that their examination papers were more satisfactory than those which were presented by graduates of medical schools outside the State, the ratio being as two to one.

A clause in the law permits New York State's Boards of Medical Examiners to endorse licenses obtained in other States whenever the requirements of New York State shall be equalled in all particulars. Up to the present time we have felt ourselves unable to recommend the endorsement of licenses obtained in other States because, although in many the New York standard is approximated, the preliminary requirements as well as the rigorous system of examinations here do not obtain. We do not care to lower our standard. The Medical Society of the State of New York has placed itself on record as opposed to any such step, and the lawmakers up to the present time have conformed to its wishes in this particular, considering it unfair to our own graduates to admit licentiates from other States on lower general standards than are required of our own candidates. A proposition has been made, however, to amend the law so that reciprocity may be carried on between States where, because of the non-existence of the excellent safeguard possessed by us in our Regents' body, similar tests cannot be applied by such States. The substance of the proposal is that each case be judged upon its individual merits, thus: A candidate from another State presented himself to the Regents for the endorsement of a license shall prove (1) that he has the preliminary academic requirements; (2) that he has attended four full courses of lectures at a school of medicine recognized by this State as of good standing; (3) that he was licensed by a State Board of Medical Examiners whose examination-tests are equal to ours; (4) that we have access to examination-records to prove that he was properly marked as proficient; (5) that the methods of examination conducted at the time he applied for a license in a foreign State were properly safeguarded. It is the belief that it would be only the part of justice to endorse the license of such an one. At the present time we are charged with undue severity in this particular, and a willingness on the part of those interested to consider this question in all its bearings would show that at least we are open to conviction. It is a cause for congratulation that all the medical colleges of the State have displayed commendable zeal in elevating their standards, prolonging their courses of study, and adding to their professorships.

Fifteen invited guests were present, and upon resolution were welcomed to all the privileges of the meeting.

DR. WEY, Chairman of the Committee on By-Laws, reported adversely upon an amendment proposed at the last meeting to change the place of meeting of the Society to New York City, Buffalo, and Albany, alternately, and the time of meeting to the first Tuesday in February. This amendment was thoroughly discussed later in executive session, and was lost by a standing vote of 35 to 40. Albany will, therefore, continue to be the Mecca of the Society.

DR. WENDELL C. PHILLIPS of New York County read a paper, entitled

EAR MANIFESTATIONS IN GENERAL DISEASE.

The author said that although all diseases, especially the exanthemata, which lead to a debilitated condition

are apt to be accompanied or followed by ear manifestations. The subject has received but little attention. Cases were cited in which middle-ear disease accompanied malaria, syphilis, neurasthenia, scarlet fever, etc., and one was mentioned in which the ear trouble simulated the symptoms of typhoid fever. Adenoid growths in the pharynx was given as a frequent cause of middle-ear disease and consequent deafness, and statistics were quoted to show that many deaf mutes have such adenoid growths. Carious teeth was also mentioned as a cause of ear complications. The author showed a new ear speculum and electric light combined, which had been devised by Dr. Nichol of New York.

DISCUSSION.

DR. LUCIEN HOWE of Erie County: I cannot let this excellent paper pass without some word of comment to emphasize what has been said about the importance of ear manifestations in general diseases. The terrible results which follow neglect in cases of this kind should make us very careful not to overlook the condition. It is in the beginning that treatment will accomplish the best results.

DR. HOLT of Portland, Me.: In scarlet fever the ear should always be treated, and an ear affection arising at this time should never be allowed to continue until it becomes chronic. The time to treat the ear is when the discharge begins. The ear is sometimes involved in cases of Bright's disease, but, in such instances, little relief can be afforded. During the course of the acute diseases of childhood the general practitioner should always give attention to the ear.

DR. JOHN O. ROE of Monroe County then read a paper upon

CASES OF ACUTE NON-DIPHTHERITIC INFLAMMATION OF THE LARYNX REQUIRING THE PROLONGED RETENTION OF THE INTUBATION-TUBE.

The paper gave in detail the case of a child, thirteen months old, who was attacked by a slight croupy cough, apparently the result of a cold. There was some difficulty of respiration, which increased to such an extent that on the third day an intubation-tube was introduced. It was then thought that the child was suffering from laryngeal diphtheria, but repeated bacteriologic examination did not show the Klebs-Löffler bacillus, although numerous micro-organisms were found. The tube was worn during six weeks on account of the dyspnea, being repeatedly expelled and re-inserted.

A similar case, occurring in a little girl three years of age, was also cited. Complete recovery followed in both instances, but there was hoarseness and aphonia for a time after the removal of the tube. The author referred to two cases occurring in the practice of the late Dr. O'Dwyer, in which the tube was worn respectively ten and eleven months. Both of these were cases of diphtheria.

THE REPORT OF A CASE OF UNUSUAL CONTRACTION OF THE VISUAL FIELD AND DISORDER OF THE COLOR SENSE FOLLOWING AN INJURY,

was the title of a paper read by DR. T. F. C. VAN ALLEN of Albany County.

The patient was a man twenty-six years of age, a painter, who while at work was thrown from his scaffold by the breaking of a rope. He sustained a dislocation of the right shoulder, a fracture of the right humerus, and a cut on the head. There was no evidence of fracture of the skull. The eyelids became swollen and ecchymosed after the accident, but the vision seemed good. The patient made a slow recovery. Five weeks after the injury he found that in reading his eyes became tired within a few minutes, and that the text appeared blurred. Six months after the accident he was not able to distinguish colors, and, on this account, came under the speaker's observation. Examination showed that the intra-ocular tension was not increased; R. V. 20/40; L. V. 20/30; neither pupil responded to reflected light until the mirror was brought very close to the eye. There was considerable contraction of the visual field. His perception of red was good, but he could not distinguish blue from green. The man was of good habits, so alcoholic and tobacco amblyopia were excluded. Therefore, the author considered the condition due to the concussion and nervous shock resulting from the fall. Examination four years after the accident showed R. V. 20/30; L. V. 20/30; the visual field for white and yellow was increased; field for blue and green defective; field for red not very far from normal. He sees fairly well, but has difficulty in matching colors in a dim light.

DR. C. B. HERRICK of Rensselaer County, then read a paper, entitled

THE RAILWAY SURGEON AND HIS WORK.

The railway surgeon has become a specialist because of a demand for special services in this line. In the United States more than a million men are employed on railroads and of these 40,000 are injured annually. The injuries which the railway surgeon is called upon to treat differ from others in that they have been inflicted by enormous weights in motion, the crushing force of which is tremendous. The degree of severity of the injury depends largely upon the speed of the object which causes it, a train going at a slow rate of speed causing a crush, whereas one going faster will limit the injury to the wound itself. Owing to the elasticity of the skin it is possible for a train to pass over a man's leg without causing any external wound, and the general practitioner is often misled into thinking that no serious injury has been inflicted, when in fact, it is so great as to frequently impair the tissues to such a degree that vitality is lost and repair impossible. The railway surgeon is conservative, especially when injuries of the upper extremities are concerned. When the lower extremities are involved it is possible to be too conservative. As the men employed on railroads usually have families dependent upon them, it is impracticable to subject them to prolonged treatment in the effort to save a crushed foot, and in such a case it is better to amputate at once. In amputating it should always be remembered that an artificial limb can usually be best fitted in proportion to the length of the stump. The conditions met with in the work of the railway surgeon are favorable to sepsis. The hand of the railroad man is cov-

ered with oil and cinders, and dirt of all kinds is often carried into a wound at the time of infliction. Accidents, too, are apt to occur in unfrequented places and often in inclement weather, all of which reduces the chances for recovery. Railway surgeons were first employed in the West where hospitals are widely separated, and now they are found all over the world. It has also been recognized that prompt attention to wounds is all important; therefore, emergency packets have been placed upon all trains to be used by a physician if there is one at hand, if not, by one of the train-hands, all of whom have been taught what to do in emergencies. They have also been instructed as to the best way to transport an injured man. On some roads a hospital-car is provided which at all times is kept in readiness to go where it is required.

The railway surgeon is constantly considering the proper sanitation of cars, recognizing as he does the great danger of infection being carried in this way. The examination of employees as to their fitness is also one of his duties. There are six thousand railway surgeons in the United States.

A paper, entitled

THE RIVALS OF THE PHYSICIAN IN PRACTICE,
was read by REYNOLD W. WILCOX, M.D., of New York County.

Considering the conditions under which medical men work, the author said, it is not surprising that they have so much to complain of. It is hardly realized how many hangers-on and camp-followers there are. This is probably due to what is said to be the American love of a title; there are many who want to be called "Doctor," and, if they cannot reach that height, some of them are willing to be dubbed "Doc." All medical men are familiar with the "Doc" of the corner drug-store—the prescribing apothecary who repeats prescriptions without the physician's permission, who gives to somebody else a prescription originally given to a different person, who substitutes preparations of his own manufacture for those ordered in a prescription. It seems as though such "physicians" will continue to increase in number to the end of time. There seems no way to confine the labors of these people to the legitimate business of compounding physicians' prescriptions. Then, again, there is the instrument-maker, but he has learned that a truss will not accomplish much for the patient when placed over a bubo or an undescended testicle. Of late years the physician has had to contend with the trained nurse, who prescribes for the members of the family of her patient, and the massage operators and bath attendants, who are always ready to give advice. Curiously enough, the veterinary surgeon is the only individual who will not prescribe for a human being, in spite of the fact that he is much better able to do so than many who do. The reason of all this is found in the fact that the physician works in an altruistic way, thinking only of the good of the people and not recognizing the commercial side of his affairs.

AFTERNOON SESSION.

DR. JOHN H. PRYOR of Erie County read a paper, entitled

WHAT SHALL THE STATE AND COUNTY DO FOR THE CONSUMPTIVE?

In the State of New York 13,000 persons die of consumption every year. In Buffalo alone the annual death-rate from this disease reaches nearly 500. These figures show the frightful loss of life due to tuberculosis and the necessity for measures which reduce the death-rate. Besides those who lose their lives, many are incapacitated by this disease. The popular belief that tuberculosis is an incurable affection is incorrect. Intelligent treatment, instituted early, and proper environment, will accomplish much in cases of incipient consumption. The well-to-do victims of tuberculosis seek change of climate, and thereby gain the best chance of recovery. The majority of the cases occur among the poor, and they are the real sufferers—struggling along until they can no longer work and then seeking relief. Special hospitals for these patients should be established in which they can have pure air, sunlight, and space for indoor exercise when advisable. Open-air life and nourishing food will be the means of cure in many cases of incipient consumption. Such a hospital should not be connected with an almshouse, as was recently attempted at Buffalo; it should be situated where the most beneficial climate can be obtained, and in this State there is none better than that of the Adirondacks. Ill-managed charity ignores the class of cases in question, while provision has been made for poor persons suffering from other diseases. It is the duty of the State to care for poor consumptives, many of whom, sooner or later, become public charges, and it would be better to make them dependent, say, for eighteen months during the curable stage of the disease, at a probable cost of \$300, and then restoring them to a condition in which they can care for themselves, than to allow them to become incurable.

DR. WILLIAM WARREN POTTER of Erie County then read a paper, entitled

THE ADVANTAGES OF STATE CONTROL IN MEDICINE, WITH RESULTS OBSERVED.

The first attempt to place the practice of medicine under State control was made by the Medical Faculty of the University of Buffalo in 1864, and nothing came of it. In 1883 the project was again revived, also in Buffalo, by the Medical Society of the County of Erie. A bill was then framed and placed in the hands of a committee which debated the question for two years before presenting it the Legislature. It was not until June 5, 1890, that such a bill was passed, and the examiner appointed by the Board of Regents were not named until March 11, 1891. Practically four-years' work was lost by the Exemption Bill (passed at the instance of 900 medical students in the State) which provided that those who began the study of medicine previous to June 5, 1890, should be exempt from examination. At present the original bill is still in force, although many assaults have been made upon it by those antagonistic to laws governing the practice of medicine.

DR. R. C. M. PAGE of New York County read a paper on

ANEMIA

(which will appear in a later issue of THE MEDICAL NEWS).

DR. J. B. RANSOM of Clinton County read a paper on

EXPERT MEDICAL TESTIMONY.

Reference was made to a decision recently given in an Illinois court to the effect that a medical man must testify when called upon to do so, just as if he were an ordinary witness. This point the writer has contested three times in this State, refusing in each instance to answer a hypothetical question, and he considers the subject of regulating expert medical testimony one of the most important of the day. He suggested that medical experts be appointed by the Court, not more than three in number; that they be permitted access to all the papers in the case and to the defendant in the presence of the other experts, and be allowed to examine medical witnesses as to their knowledge. They should then set forth their opinion in writing, signed by all three, provided they agree on essential points, or should render individual reports in case of important disagreement. If counsel demands it, these experts may be sworn as witnesses to give testimony in the manner deemed proper by the Court. Such experts should be especially qualified for the purpose and examined for fitness by the Board of Regents, and they should be remunerated for their services, in amounts to be decided by the judge. Examination by the Board of Regents should be necessary before a man is given a certificate of qualification, and he should have practised medicine in this State not less than five years and be trained in the speciality in regard to which he expects to testify. The function of the expert witness is entirely different from that of the ordinary witness, and for that reason he should form part of the Court; his testimony should be judicial and not partisan. This plan would result in (1) the protection of the people; (2) the protection of the accused, and (3) the protection of the profession. No change in the present method, however, can be hoped for without the cooperation of the legal profession.

DISCUSSION.

DR. EVARTS M. MORRELL of New York County: I doubt if there is any subject which has excited more interest than the regulation of expert medical testimony. One of the reasons why so much ridicule has been heaped upon medical experts by the newspapers is because it often happens that a man is called to the witness stand to testify in a line of work with which he is not familiar, and in this way casts a slur upon the whole profession. Let me give a word of advice: Charge a good fee for expert medical testimony. Do not consent to testify for a small fee. The services of a physician are worth as much, and often more than those of a lawyer, and yet most people expect us to testify for a pittance.

DR. A. WALTER SUITER of Herkimer County: It has been my lot to have had some connection with the Committee on Legislation for a number of years past, and, therefore, I have become interested in this question which engages the attention, not alone of the medical profes-

sion, but of the legal profession as well. Being chairman of the committee which framed the bill, I endeavored to make some impression favorable to it when it was presented to the Reference Committee of the Legislature. I was at once met by the remark that the bill was not constitutional, in that it provided an expert for the prosecution and none for the defendant; that, if the defendant accepted the expert provided by the Court, he would not be able to call for any other, for he would then be placed in the position of attacking his own witness, which, of course, was ridiculous and compelled us to withdraw the bill. Various other bills have been prepared in other States, notably Illinois and Minnesota, providing that expert witnesses be appointed by the judge. These bills have all failed. I confess that I am very much discouraged. I do not think it is possible for any judge to make such an appointment without bias. I certainly think that experts should be properly qualified by examination and certificates from, the Board of Regents.

DR. LANDON CARTER GRAY of New York County: We really do not need to regulate expert testimony. What we do require is education of the lawyers. It is within the province of the lawyer to ascertain the qualifications which an expert should possess. It is owing to the lack of education on the part of members of the legal profession that incompetent men are allowed to testify. Selection of experts by the judge is a bad plan, for they know very little about physicians. Moreover, because of the political consideration with which he is burdened the judge is perhaps the worst man in the world to select an expert. It would be better if such a bill provided that the judge select an expert from a list prepared by the Board of Regents, but even this plan has serious disadvantages. I am sorry to say, but it is nevertheless a fact, that in some of our large cities there are a number of our professional brethren who are nothing more or less than blackmailers. They foist themselves into every case, and, if they are not selected by the lawyers, immediately go to the other side and without pay, perhaps, testify for that side in order to show the lawyers who did not employ them that they are powerful men.

DR. JOHN T. WHEELER of Columbia County read a paper on

THE COLD-WATER TREATMENT OF TYPHOID FEVER
IN PRIVATE PRACTICE

(which will appear in a future issue of the MEDICAL NEWS).

DR. HENRY L. ELSNER of Onondaga County read a paper, entitled

THE VAGARIES AND WANDERINGS OF GALL-STONES,
WITH CLINICAL REPORTS

(which will also appear in a future issue of the MEDICAL NEWS).

DR. EDWARD D. FISHER of New York County read a paper, entitled

PARALYSIS, PROGNOSIS, AND TREATMENT.

The author treated the subject under four divisions, *viz.*: (1) cerebral, (2) spinal, (3) peripheral, and (4) mus-

cular dystrophy. The first form is caused by meningeal or intracranial hemorrhage, thrombosis, tumors, injuries, etc. It is generally unilateral. The second form is due to disease of the anterior horns of the spinal cord, and is usually caused by inflammation, acute or chronic, hemorrhage, new growths, injuries, compression, spinal fracture, etc. Its principal characteristic is the wasting or atrophy of the muscles. The third variety is usually caused by constitutional dyscrasæ, such as rheumatism or gout, lead poisoning, etc., and is associated with marked sensory symptoms. The fourth form, the cause of which is obscure, is apparently a developmental defect due to heredity. Prognosis is unfavorable in all varieties except the peripheral form. The treatment advised consisted of the application of electricity and massage.

EVENING SESSION.

The evening was devoted to a symposium illustrating the practical application of the X-ray in medicine and surgery. The exhibition was in charge of Dr. Arthur L. Fisk of New York County, and the program consisted of a display of X-ray apparatus, and an instructive and interesting illustration of its uses by Dr. Samuel Lloyd of New York County. Dr. Francis H. Williams of Boston followed with an interesting account of his application of the X-ray in medical cases. The author contended that in diseases of the heart, such as hypertrophy and dilatation, and in diseases of the lungs and pleura, more especially tuberculosis, emphysema, pleurisy, and empyema, more definite information can be obtained by the use of the X-ray than from percussion and auscultation. He recounted a case in which the progress of a tuberculous invasion of the lungs was accurately followed from its inception to the end. The use of the X-ray in surgery was entertainingly and attractively illustrated by stereopticon views of skiagrams of many complicated bone injuries by Dr. Fisk. Dr. William Hailes, Jr., of Albany County illustrated his clinical experiences with the X-ray and improved methods of microscopic projection.

SECOND DAY—JANUARY 26TH.

MORNING SESSION.

DR. E. F. BRUSH of Westchester County read a paper, entitled

THE IMPORTANCE OF THE HYGIENIC MANAGEMENT OF DAIRIES

(which will appear in a later issue of the MEDICAL NEWS.)

DR. N. H. HEATH of Erie County then read a paper on

THE MUNICIPAL CONTROL OF THE MILK-SUPPLY OF CITIES.

The officers for the ensuing year as reported by the nominating committee are as follows: President, Dr. John O. Roe of Rochester; vice-president, Dr. E. F. Brush of Mt. Vernon; secretary, Dr. F. C. Curtis of Albany; treasurer, Dr. C. H. Porter of Albany. The members of the various standing committees were generally retained, except those of the Committee on Prize Essays.

(To be continued.)

REVIEWS.

VITA MEDICA: Chapters of Medical Life and Work. By SIR BENJAMIN WARD RICHARDSON, M.D., LL.D., F.R.S. Longmans, Green & Co., 39 Paternoster Row, London, 1897.

THIS book will be welcomed by all who have followed the career or the teachings of its distinguished author, and they are many. The book does not profess to be an autobiography, but a reminiscence of the prominent events of the actor's life, in which not only are the serious affairs of life considered, but many interesting anecdotes are narrated. The book was evidently designed to be part of the Jubilee celebration of Queen Victoria's reign; indeed, it opens with a touching picture of the final leave-taking of the author's invalid mother on the day following the Queen's coronation, and was finished, as narrated in a note inserted by the author's son, "on November 18th, 1896, just before eight o'clock in the evening. At ten o'clock he was seized with the illness which ended fatally on Saturday morning, November 21st."

Sir Benjamin evidently took a serious view of life from his earliest cogitations, and a consciousness of the duties and responsibilities of a medical practitioner characterizes all that he writes. The volume makes very interesting and instructive reading.

THERAPEUTIC HINTS.

In Chronic Conjunctivitis, in addition to the correction of such possible causes as errors of refraction, a nasopharyngitis, or an inflammation of the lachrymal sac, and attention to the condition of the general health, BERRY recommends for mild cases one of the following lotions:

R	Ac. tannici	gr. ii-iv
	Sod. biboratis	3 i
	Glycerini	3 ii
	Aq. camphoræ	3 iv.

M. Sig. External use;

R	Ichthyol	m. xx
	Aq. sambuci } aa	3 ii.
	Aq. dest.	

M. Sig. External use.

To Remove Comedones.—Moisten a towel with the following lotion and apply to the affected areas, with friction, several times daily:

R	Kaolini	ss ii
	Glycerini	ss iiss
	Ac. acetici	ss i
	Ol. odorat.	q. s.

M. Sig. External use.

For Pharyngitis Sicca.—

R	Ac. carbolic	3 i
	Tr. iodi	m v
	Tr. aloes	m vii
	Tr. opii	gtt. x
	Glycerini	3 i.

M. Sig. By means of an atomizer apply to the pharynx several times daily.